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v. 75-76
Jan.-Dec. 1942

AMERICAN NURSERYMAN

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The Nurseryman's Forte: To Make America More Beautiful and Fruitful

JANUARY 1, 1942

VOL. 75-76



Abies Veitchii

National Victory Garden Conference
Chalaropsis Root Rot of Chinese Elm
Radio Advertising for Retail Nursery
Experiences with New Plants in 1941

Editorial

WAR AND THE NEW YEAR.

Declaration of war came at the end of the autumn planting season, and with the spring season distant nurserymen are endeavoring to calculate the effects on the public demand for their stock. Events happen swiftly in these days, and they will occur with increasing speed now that the war has spread clear around the world and drawn in new belligerents. Hence the most farsighted nurseryman can feel no firm basis for predictions much ahead.

Some considerations may be borne in mind to help in thinking ahead. First of all, the active entrance of United States forces into the war was only one more step in a direction toward which the country has been headed for months. Industrial activity has been geared to higher and higher speed, so that now there remains only the acceleration of a program already planned and in operation. The unity brought suddenly to the nation by an attack on its soil and its people will make the speeding-up process a voluntary one. Production will no longer be impeded by labor disputes. Self-interest has given way completely to patriotic duty.

Nurserymen have a patriotic part in wartime, aside from purchases of defense bonds and enlistment for military service. Most immediate will be furnishing stock for camouflage, according to plans already prepared by the army, as soon as Congress votes the appropriation and the money is available. Not only will nurserymen be called upon to furnish most of the stock, but their advice and assistance in its planting will no doubt be required. Camouflage is a serious matter, and the deepest thought is merited to the end that the most suitable stock will be provided and that it will be placed so that, if the test comes, it will serve its full purpose of saving lives and property.

Another part that nurserymen will have in wartime has already been recognized by the government in its national defense garden program. If

The Mirror of the Trade

a garden is a place in which to seek rest and comfort in peacetime, how much more will its calm and solace be needed in the midst of that wholesale tragedy which is war! Plainly has this been shown in other countries already engaged in the war, and those who read regularly the English gardening and horticultural trade periodicals have been struck with the public's insistence on plants for the garden almost in the midst of bombing. The morale of those at home in that island has been sustained by the gardens for which it is famous.

Though food production will not require the stress laid upon it in the earlier World war, because of the lack of export demand and the presence of farm surpluses, already emphasis has been placed upon larger requirements of fruits for their nutritional value. Home gardens in suburban areas and the rural districts should include berry plants and a few fruit trees. Even plantings of commercial orchards may be increased if the government's efforts to improve the diet of the nation, following the revelations from draftees' health examinations, are successful.

Hence nurserymen have an important part to play in wartime, and by supporting the government's activities in the three ways mentioned above, they will maintain business and serve the public welfare. In passing, it may be said that to do business at a profit and pay taxes thereon has a patriotic aspect in itself. But if the volume of business should slacken, nurserymen need not be reminded that they passed through a depression whose effects were far more scathing than the first World war. Most nurserymen entered the present war period in far better operating and financial conditions than either the first World war or the late depression found them.

So, with much work to be done, patriotism and duty call nurserymen as well as other businessmen. The courage with which they face climatic handicaps and the weather's setbacks in normal times, and the persistence which has carried them thus far, will see them successfully through any vicissitudes the war may bring.

PLANT NAMES.

Some nurserymen are careful that the plant names in their price lists and catalogues conform with the scientific authorities, even though the botanists have made changes from older familiar forms. They protect themselves in so doing, particularly if they deal in unusual and exotic varieties of plants.

Confusion is caused by the nurserymen who adhere to older forms or colloquial names. These may serve the purpose when the nurseryman is doing a local business and shows the customers the plants. But it is far from satisfactory if he uses such forms in a catalogue that circulates at a distance.

Not infrequently does it happen that a customer orders from two different nurseries and finds he has the same plant under two different names, one out-of-date and the other the current botanical form. Dissatisfaction is the least of the results. In other instances, orders placed under the misapprehension as to the identity of the plant, because it was catalogued by a common or out-of-date name, have led to embarrassment to both buyer and seller.

It is not difficult for a nurseryman to be up-to-date on varietal names if he will but check his list. It will be the easier with the publication this month of the big revised edition of "Standardized Plant Names."

JOHN STARK LIEUTENANT.

John Wingate Stark, second son of Former Governor Lloyd C. Stark, Louisiana, Mo., who graduated as a flying cadet in the Army Air Corps at Lowry field, Denver, Colo., last July 3, was, after his graduation, assigned to the bombing squadrons at Salt Lake City, Utah.

He returned to Lowry field on detached duty for a 3-month post-graduate course in secret flying instruments, from which course he was graduated Friday, November 7. November 10 he was commissioned a second lieutenant in the Army Air Corps. His older brother, Lloyd Stickney Stark, is a lieutenant (junior grade) in the United States Navy, now on active duty in the Hawaiian islands.

AMERICAN NURSERYMAN

[Registered U. S. Patent Office]

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

VOL. LXXV, No. 1

JANUARY 1, 1942

Founded 1904
With which was merged 1939
THE NATIONAL NURSERYMAN
Established 1893

* * * * *

Published on the
first and fifteenth
of each month by the

AMERICAN NURSERYMAN
PUBLISHING COMPANY

508 South Dearborn Street,
Chicago, Illinois.

Telephone: Wabash 8194.

* * * * *

New York
Advertising Representative:
N. L. Huebsch
67 West 44th Street
Telephone: Murray Hill 2-4871

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Subscription Price:
\$1.00 per year; outside
United States, \$1.50;
Single Copies, 10c.

* * * * *

Advertising Rates
on application.
Forms close five days
before date of issue.

* * * * *

Entered as second-class matter
December 14, 1933, at Chicago,
Ill., under act of March 3, 1879.

CONTENTS

National Victory Garden Conference.....	5
Chalaropsis Root Rot of Chinese Elms.....	7
by ERNEST WRIGHT, Associate Pathologist, Division of Forest Pathology, Bureau of Plant Industry, United States Department of Agriculture	
Experiences with New Plants in 1941.....	11
By C. W. WOOD, Gladwood Gardens, Copemish, Mich.	
Radio Advertising for Retail Nursery.....	13
By JOHN W. SARBER, Sarber Nursery Co., Topeka, Kan.	
Charlie Chestnut	20
The Hope Chest	
This Business of Ours.....	24
By ERNEST HEMMING, Eastern Shore Nurseries, Easton, Md.	
Diseases of Trees.....	26
By LEO R. TEHON, Head of Section of Applied Botany and Plant Pathology, State Natural History Survey, Urbana, Ill.	
Cover Illustration Notes.....	23

Editorial	2	Coming Events—continued.	
—War and the New Year.....	2	—New Jersey Program.....	16
—Plant Names	2	—Ohio Program	16
John Stark Lieutenant.....	2	—Michigan Program	17
Reorganize U. S. D. A.....	9	—Program at Pittsburgh	17
Family Fruit Needs.....	9	Obituary	18
J. Wallace Mann (portrait).....	9	—Ralph Emlong	18
Let's Swap Ideas.....	10	Notes from a Nurseryman's Wife..	18
—Trimming Evergreens	10	Bulletins Received	19
—Newspaper Copy	10	Abies Veitchi	23
Farm Equipment Rating.....	10	Joins Maxwell-Bowden	27
John W. Sarber (portrait).....	13	Boxwood Gardens Fire.....	27
Treatment for Chlorosis.....	14	War Problem on Coast.....	28
Cedar Blight	14	Fungus Kills Madrona and Dog- wood Trees	28
Coming Events	15	Howard's Flowerland	28
—On the Calendar.....	15	Southwestern News	29
—North Carolina Program.....	15	Make Future Customers.....	30
—Georgia Program	15	Advises Students	31
—Illinois Program	15	Lonicera Korolkowii Floribunda.....	32
—Massachusetts Program	15	New Plant Patent.....	33
—New York Program.....	16	Ask Express Rate Raise.....	33
—Nebraska Program	16		

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INDEX TO ADVERTISERS

Albert Nursery, Theo.....	32	Hinsdale Nurseries, Inc.....	25	Peekskill Nursery.....	19
American Chemical Paint Co.....	36	Hobbs & Sons, C. M.....	25	Pequot Nursery.....	32
American Florist Supply.....	34	Hogansville Nurseries.....	31	Peterson & Dering, Inc.....	29
Andrews Nursery.....	27	Holton & Hunkel Co.....	25	Portland Wholesale Nursery Co.....	29
Ariens Co.....	35	Home Nursery.....	32	Princeton Nurseries.....	21
Arp Nursery Co.....	32	Howard Rose Co.....	28		
Athens Nursery Co.....	23			Rich & Sons Nursery.....	28
		Innis, Speiden & Co.....	34	Riverside Nursery Co.....	31
Bagatelle Nursery.....	21			Robinson, E. D.....	19
Bailey Nurseries, J. V.....	31	Jackson & Perkins Co.....	23	Rototiller, Inc.....	33
Baker Bros. Nursery.....	27	Jewell Nurseries, Inc.....	27		
Bartlett Mfg. Co.....	34	Jones Nurseries, J. F.....	23	Scarff's Sons, W. N.....	27
Bobbink & Atkins.....	21			Schifferli & Son Nurseries, F. E.....	19
Boxwood Gardens.....	25	Kalley Bros. Co.....	25	Schroeder Nursery Co.....	30
Burr & Co., C. R.....	23	Keith Plant Nursery.....	27	Schumacher, F. W.....	31
Burton's Hill Top Nurseries.....	25	Koster Co., Inc.....	19	Sherman Nursery Co.....	27
				Sherwood Nursery Co.....	28
Campbell-Hausfeld Co.....	33	LaBars' Rhododendron Nursery.....	23	Slatton Nursery Co.....	22
Chase Co., Benjamin.....	34	Lake's Shenandoah Nurseries.....	18	Smith & Son, Seymour.....	35
Clarke & Co., W. B.....	19	Leonard & Son, A. M.....	34	Sneed Nursery Co.....	27
Cloverset Flower Farm.....	33	Louisville Nurseries.....	25	Southern Nursery Co.....	31
Cutler & Downing Co.....	27	Lovett, Lester C.....	21	State Road Nursery.....	23
de Wilde's Rhodo-Lake Nurseries.....	21	McGill & Son, A.....	29	Tardif Domestic Peat Sales Co.....	34
Doty & Doerner, Inc.....	29	Meehan Co., Thos. B.....	34	Texas Floral Co.....	32
Dreer, Inc., Henry A.....	31	Milton Nursery Co.....	29		
Dummett, Arthur.....	23	Moran, E. C.....	31	Verhalen Nursery Co.....	27
		Morse Co., A. B.....	34		
Evergreen Nursery Co.....	25	Motz Bros.....	28	Washington Nurseries.....	28
		Mount Arbor Nurseries.....	23	Waynesboro Nurseries.....	32
Fairview Evergreen Nurseries.....	20	Mount Vernon Nursery.....	29	Wayside Gardens Co.....	35
Forest Nursery Co.....	25			Weathered Oak Herb Farm.....	35
Foster Nursery Co.....	27	Naugher Nursery.....	32	Weller Nurseries Co.....	25
Friou Floral & Nursery.....	32			Westbury Rose Co.....	32
		Oberlin Peony Gardens.....	32	Westminster Nurseries.....	23
Gardner's Nurseries.....	19	Orenco Nursery Co.....	29	Williams Nursery Co., L. E.....	23
		Outpost Nurseries, Inc.....	23	Willis Nursery Co.....	35
Herbst Bros.....	19			Wisconsin Moss Co.....	32
Hess' Nurseries.....	21	Pacific Coast Nursery.....	28	Wright, C. D.....	31-32
Hill Nursery Co., D.....	17	Pastor Nursery, A.....	28		

MORE SPACE — MORE ATTENTION

"The wheel that squeaks the loudest is the first that gets the grease" is an old farm saying.

Just as plainly, the advertising that stands out from the pages of a magazine is read first and by the most persons.

To get inquiries and orders, therefore, it is better business economy to make sure your copy has the most attention—and makes sales—rather than limit space to save a few dollars—and miss buyers.

For example:

"We are very much pleased with the results obtained from the advertisement we are using and feel that the additional money put into this advertising is being well spent."—Portland Wholesale Nursery Co., by Avery H. Steinmetz, Portland, Ore., December 8.

National Victory Garden Conference

On the day before Pearl Harbor was attacked, telegraph invitations were sent to more than 150 persons to attend the national defense garden conference at Washington, D. C., December 19 and 20, called by Claude R. Wickard, Secretary of Agriculture, and Paul V. McNutt, administrator of the federal security agency and director of the office of defense help and welfare services. By the time the representatives of garden and horticultural associations, farm and garden periodicals, horticultural and allied trade interest and papers, as well as educational and action agencies, had assembled in the auditorium of the agricultural building at Washington, D. C., the country was at war. Hence the recommendation by the committees of the conference that it be called a "National Victory Garden Program," which is to be worked out by the representatives at the conference through the state and local coordinating agencies.

The interest and enthusiasm of this conference surprised the officials at Washington, and the diligence with which the committees undertook to outline the program to be followed was evidence of the recognized importance of gardening in wartime.

The Department of Agriculture, through the extension service and the county agents, will promote the campaign of farm vegetable and fruit gardens. The home fruit gardens and the conservation of ornamental plantings will depend upon the support of those individuals interested in that phase of gardening. Hence nurserymen, acquainted with the outcome of this conference as reported here and by the statements of its leaders, may be guided in their leadership of wartime gardening in their respective communities.

As M. L. Wilson, chairman of the conference, said in his concluding words: "We came here yesterday to take part in the national defense gardening conference. We go home this evening with the knowledge that we have helped launch the 'National Victory Garden Program' of the second World war. We do not know today how long that war will last, but we do know that, irrespective

LEADERS TELL VALUE OF GARDENING.

"Gardening is one activity that has great possibilities as a useful outlet for that urge to do something. There's a spiritual uplift in seeing things grow."—Secretary of Agriculture Claude R. Wickard.

"A garden today means not only food for the family, but also courage and patience and a sense of participation for the mind and heart."—Paul V. McNutt, Federal Security Administrator.

"Those who are guiding this movement for a vastly expanded program of fruit and vegetable production are evincing, it seems to me, a very sane attitude toward the question of maintaining beauty. What they say about keeping our flowers, plantings and shrubbery on our grounds and placing other things that engage the eye and induce a happy mood should be heartily upheld. There is no particular virtue in ugliness, and our soldiers will not fight one whit less vigorously for our country if they remember it as a place of lovely lawns and fragrant blossoms. There is plenty of good potato land without taking that on which our lilies grow, and all the vitamins we need can be raised without destroying the pansies. If the flowers are destroyed, some of our spirit goes with them."—Dr. Samuel W. Hamilton, United States Public Health Service.

of its duration, we have in the past two days welded together, in outline form, a plan which we are confident will make a real contribution to victory."

Commenting on the attendance at the conference, H. W. Hochbaum, secretary of the conference and chairman of the Department of Agriculture garden committee, said, "We are amazed and gratified at the splendid response, the very wide acceptance of our invitations, particularly so because we know that all are tremendously busy in these days."

Invited to the conference were nearly 200 representatives of garden associations and clubs; the garden, farm and daily press; horticultural and allied trade associations and periodicals; radio broadcasting stations, and officials of government agencies such as the United States Department of Agriculture, federal securities agency, office of civilian defense and work projects administration. The attendance on the opening day was more than 250 and nearly all of

them stayed to hear the final recommendations of the various committees through the conference on Saturday afternoon.

Nursery trade representatives at the conference included Edwin J. Stark, president, and Richard P. White, executive secretary, of the American Association of Nurserymen; Lloyd C. Stark, of Stark Bros. Nurseries & Orchards Co., Louisiana, Mo.; Paul Stark, of the same firm and president of the National Apple Institute; Robert Pyle, West Grove, Pa.; W. Ray Hastings, secretary, All-America Rose Selections, Harrisburg, Pa.; Frederick Leubscher, landscape architect, Essex Fells, N. J., and F. R. Kilner, editor of the American Nurseryman.

The morning sessions of the conference were devoted to inspirational messages from prominent leaders, while the afternoons and Friday evening were taken up with the work of committees engaged in outlining the program of objectives and ways by which they might be reached.

M. L. Wilson, director of extension work of the United States Department of Agriculture and assistant director of the office of defense health and welfare services, was conference chairman, and H. W. Hochbaum, of the Department of Agriculture extension service, was secretary.

Speakers at the opening session, December 19, were Secretary of Agriculture Wickard, and Paul V. McNutt, who called the conference.

Prentice Cooper, governor of Tennessee, told of the home food supply program which had engaged 105,000 farm families in his state. Richardson Wright, editor of House and Garden, represented the amateur gardener. Mrs. E. A. Lindley, of the office of civilian defense, and Miss Caroline Ware, of the consumers' division of the office of price administration, told of the attitude of those agencies toward the program.

Saturday morning, Grover B. Hill, Assistant Secretary of Agriculture, presided. John W. Studebaker, commissioner of education, spoke on the school system and defense gardens, while T. J. Talbert, director of horti-

culture at the University of Missouri, and Dr. E. C. Auchter, chief of the federal bureau of plant industry, told of the necessity of more fruit on the farm for home use.

An excellent statement of "Mental Hygiene in a Gardening Program" was given in the address by Dr. Samuel W. Hamilton, of the United States public health service. M. L.

REPORT OF COMMITTEE ON HOME FRUIT PLANTING PROGRAM.

It is the consensus of the members of the farm fruit garden committee that the nation's needs for adequate nutrition cannot be met satisfactorily without the inclusion of fruits in the diet.

In recognition of these facts, it is recommended that the home planting of fruit be included in a well balanced national program of food production, in order to meet present and long-time needs.

Since most farm families will not have all the fruit they need unless they grow a large portion of it, this committee recommends that the home planting of various types of fruit, including berries and nuts, which experience has shown can be grown with a minimum of attention, be encouraged throughout the United States.

To facilitate the carrying out of a program to obtain greater production of vegetables and fruits, including nuts and berries, it is recommended that the Secretary of Agriculture appoint an advisory committee made up of members outside the United States Department of Agriculture.

It is suggested that state meetings be arranged to inaugurate home vegetable and fruit planting programs, and that the United States Department of Agriculture make an effort to give assistance in these meetings where such assistance is requested.

In order that home fruit planting efforts may be sound and effective, it is suggested that the United States Department of Agriculture take the lead in developing or adapting informational material on home fruit planting and care.

So that this informational material will be applicable to local conditions of soil and climate, we recommend that it be prepared on a regional basis, in coöperation with state experiment stations and state extension services.

In order to adapt the program still more closely to local conditions, it is recommended that the state extension agencies prepare similar informational material to supplement the United States Department of Agriculture bulletins.

In connection with home fruit plantings already established, the immediate step should be attention to such practices as pruning, manuring, cleaning up trash, mulching and keeping down weeds, and spraying and dusting to control insects and diseases, should be practiced where necessity demands and facilities permit.

Wilson spoke on "Farm Gardens and Farm Health," while Mrs. Florence Kerr, of the work projects administration, gave the experience of that agency with community gardens. Mrs. Ruth G. K. Strawbridge, Philadelphia, was invited to the platform to tell about the organization, "Flowers for the Flowerless," in her city.

Interest in wartime gardening as the subject of the conference at the capital received stimulus from several directions. About two months ago there was held at Washington a conference on nutrition, to consider the problem revealed by the reports of army medical examiners that forty per cent of the selectees rejected had physical defects due to malnutrition and, oddly enough, most of them came from the farm rather than the city. Hence the urge to stimulate farm vegetable gardens and farm fruit gardens. Another matter for conference consideration was the experience with wartime gardens a quarter century ago. Secretary of Agriculture Wickard warned against plowing up parks, golf courses and lawns to grow vegetables during this war, when the agricultural situation is quite different from that in the earlier World war. It is hoped this time to guide the public so that such hysteria will be avoided and the consequent waste prevented.

A further phase of the conference was the consideration of the ornamental aspect as providing means of maintaining mental health and upholding the nation's morale in a time of strain and worry.

The persons in attendance at the conference were divided into six different committees, in accordance with their primary interests, and reports were presented to the conference as a whole by the sections.

That on farm vegetable gardens, headed by Miss Connie Bonslagel, Arkansas home demonstration leader, recommended the development of many more gardens and particularly better gardens. It was recommended that "seedsmen be consulted by horticulturists, home economists and other agricultural specialists as to kinds, varieties and amounts of available seeds and that as far as possible the existing channels of trade be used in the distribution of seeds, to discourage free distribution." It was urged by this committee that the extension services of the land-grant

colleges and the Department of Agriculture take the lead, with other educational and acting agencies, to carry out the farm garden program.

The committee on farm fruit gardens recommended a change of that title to home fruit planting program. It urged the home planting of berry plants and fruit trees for adequate nutrition. It is expected that the United States Department of Agriculture will assist in this program by the preparation of several pamphlets recommending varieties of berries and fruits to be planted in various

[Concluded on page 34.]

REPORT OF COMMITTEE ON LAWNS, FLOWERS AND SHRUBS.

With full awareness of the national need for a coördinated effort in a gardening for victory campaign and with a knowledge through experience gained in the first World war, your committee, appointed to consider the conservation of lawns, flowers and shrubs, submits the premise that any program for the development of gardens for victory must include the growing of trees, shrubs and flowers for the health of the mind, as well as vegetables for the health of the body, because ornamental gardening is a vital and absolutely essential part of American life today, and its value as a stimulus to national, physical and spiritual well being is beyond calculation. The conservation and expansion of the home garden is, therefore, a goal that must be maintained.

It has already been pointed out by the Secretary of Agriculture that, in urban areas particularly, growing flowers and shrubs seems wiser than to tear up yards and playgrounds for the sake of trying to grow a few vegetables as was done during the last war.

We also believe that the importance of municipal, ornamental gardening should not be overlooked in these times. In the growing of community flowers, ornamental shrubs and trees, large groups of people, particularly in urban areas, may find release, keep up morale and render valuable service in improving the appearance and increasing the assets of community plantings.

This community effort has already made itself felt through the work of garden clubs which have improved the appearance of military camp areas by landscape plantings.

It is the view of this committee that the facilities offered by this broad framework should be utilized to encourage in every feasible way those phases of gardening which deal with flowers, shrubs, trees and other plants that are essentially ornamental in character. By assigning these to their proper and justified place in the whole gardening for victory plan the full potentialities and benefits of the national effort can best be attained.

Chalaropsis Root Rot of Chinese Elm

By Ernest Wright

In 1934 L. W. Locke, of the bureau of plant industry's southern great plains field station, at Woodward, Okla., called the writer's attention to a root rot of stored Chinese elm (*Ulmus pumila* L.). Studies of this root rot were undertaken by the division of forest pathology, and Lamb, Wright and Davidson (4)² isolated and identified the causal fungus as *Chalaropsis thielavioides* Peyronel. This was apparently the first report of the fungus in the western hemisphere. In Europe it was originally described by Peyronel (5) in 1916 as causing a disease of lupine in Italy, and later Hamond (2) found that it caused a graft disease of walnut in England. Recently Karla Longree (3) found that *C. thielavioides* was the cause of a "black mold" of rose grafts apparently originating from stock grown in northern Oregon. Baker and Thomas (1) reported that the same fungus caused a failure of bud unions of rose in 1940 in a limited area in California.

Since *C. thielavioides* is becoming of increasing economic importance, it appears opportune to present the results of additional tests on the control of this root rot on Chinese elm nursery stock. Perhaps some of the results may be applicable to other hosts.

Effect of the Root Rot.

In the original description of the Chinese elm root rot (4) it was stated that the first observable symptom is the occurrence of a grayish-white moldlike growth, which appears at injuries or broken places on the roots. Such injuries may be caused by digging and lifting operations or by the action of termites and grubs prior to digging. The outer root tissues become dark brown to black and are rather quickly broken down to a slimy mass as the rot advances. Since the rot destroys the cortex of the infected root, the question naturally arose as to what effect this had on the survival of diseased plants under field conditions.

¹Received for publication.

²Reference is made by number to Literature Cited, at end of article.

Control of *chalaropsis* root rot of Chinese elm under storage conditions north and south is presented by this associate pathologist in the division of forest pathology of the bureau of plant industry of the United States Department of Agriculture, working in co-operation with the Prairie States Forestry Project and the Soil Conservation Service.

Lamb³ found that the root rot was universally present on the roots of living and dead one-year-old Chinese elms in Oklahoma shelter belt plantings made in 1935. Out of a total of 3,385 Chinese elms, he found twenty-three per cent dead, but this mortality was partially due to rodent damage. On the living plants, new rootlets were formed above and below the lesions on the roots and there was no evidence that the lesions had grown in size. Apparently the fungus continued to live on the infected roots and, therefore, was recognized as a potential menace to the plants.

The writer, assisted by Lamb, sorted over a number of diseased elms and planted them at the dry land field station at Woodward, Okla., in the spring of 1935. A year later the results shown in table 1 were recorded:

While the data presented in table

Table 1—Effect of *Chalaropsis thielavioides* root rot on survival of elms after planting at Woodward, Okla., in 1936.

Species of Elms Tested	Character of Root Rot Before Planting	Number Planted 1935	Per Cent Dead 1936	Per Cent with Reduced Vigor	Per Cent Living
<i>Ulmus pumila</i> L.	Severe	118	32	5	68
<i>Ulmus pumila</i> L.	Slight	119	7	5	93
<i>Ulmus parvifolia</i> Jacq.	Moderate	43	23	64	77

1 are numerically weak, the time of testing was ideal, since 1935, the year of planting, was above normal in precipitation and the spring of 1936 was deficient in rainfall. Thus the plants had a good opportunity to be-

come established, yet a considerable percentage of the stock, particularly that with badly rotted roots, died the following year when drought was prevalent.

It appears from the above examinations that when the *chalaropsis* root rot is severe it influences the survival of Chinese elm in the field by reducing the vigor of the infected plants. Such reduction in vigor can well be the difference between success and failure in field plantings in the great plains region where conditions for tree growth are normally more adverse than favorable. Since it was indicated that this root rot not only destroys stock in storage, but also decreases survival after planting, it becomes evident that control measures were needed.

Chemical Dips and Storage Methods.

A number of chemical dips have been tested in an attempt to control the *C. thielavioides* root rot of Chinese elms.

Lamb⁴ tried the following chemical dips to control the rot on one-year-old Chinese elm stock: Commercial and homemade Bordeaux, lime-sulphur, boric acid, normal Semesan and bichloride of mercury. He found that dipping the roots in a 1 to 500 mercuric chloride solution gave control of the root rot over a period of ten days during inside storage. Later it was found, however, that the mercuric chloride

treatment injured the roots of the plants. He also found that this treatment effected no appreciable control in field plantings.

From 1935 to 1936 several additional chemical treatments of arti-

³Lamb, Howard, Notes on Shelter Belt Plantings in Oklahoma, visited April 30 to May 2, 1935. Unpublished report, 4 pages. Division of Forest Pathology in coöperation with Civilian Conservation Corps.

⁴Lamb, Howard, "Control of Chinese Elm Root Rot by Chemical Dips" 1935. Unpublished report, 17 pages. Division of Forest Pathology in coöperation with the Civilian Conservation Corps.

ficially infected stock were tried.⁶ The Chinese elm seedlings were obtained from a number of localities, namely: Bismarck and Leal, N. D.; Baltic, Pierre and Rapid City, S. D., and Fremont and Lincoln, Neb. A total of 16,000 seedlings were used in these tests. Of this number, 8,000 served as untreated checks which included stock from all localities.

The roots were chopped off with a hand ax about five to seven inches from the tips to produce uniform wounding. The roots were then immersed in a tub of water containing spore suspensions of *C. thielavioides*. The purpose of this was to secure uniform infection. After inoculation the seedlings were stored indoors overnight under moist burlap. The next day 8,000 of the plants were dipped in a solution consisting of one part of commercial formaldehyde to forty parts of water. Three hundred seedlings not artificially wounded were also treated with formalin. The checks and treated stock were then divided equally and stored under the following conditions:

1. Heeled in at once outside in sand.
2. Heeled in at once outside in silt loam.
3. Covered with dry burlap and stored inside at 35 to 38 degrees Fahrenheit.
4. Covered with wet burlap and stored inside at 35 to 38 degrees.
5. Covered with dry burlap and stored inside at 40 to 50 degrees.
6. Covered with wet burlap and stored inside at 40 to 50 degrees.
7. Covered with dry burlap and stored inside at 55 to 75 degrees.
8. Covered with wet burlap and stored inside at 55 to 75 degrees.

A small portion of the stock was also heeled in, in sand, during inside storage. The tests were initiated in early December, 1935, at Lincoln, Neb., and final readings were made in mid-March the next year.

The formaldehyde treatment caused pitting injury under all conditions of storage and at the same time it failed permanently to check the development of the root rot.⁶ It did, however, check the rot for two weeks. Pitting injury was only slight at 35 to 38 degrees in inside storage and in both the sand and the silt loam outside heel-in beds as compared to seedlings

stored at higher temperatures. Likewise the root rot developed noticeably slower at these low temperatures, especially in the outside heel-in beds. The formaldehyde injury seemed to be just as severe on the uninjured as on the artificially wounded stock. It was concluded from these tests that formaldehyde did not satisfactorily control the root rot and could not be recommended because of the danger of chemical injury.

Additional treatments of inoculated stock made in 1936 included treatment with boric acid and sodium perborate solutions. The former was used in a solution at the rate of one part boric acid to thirty-four parts of water and the latter in a solution at the rate of one part of sodium perborate to eighteen parts of water. The various combination treatments were as follows:

1. Stock dipped in chemical solutions, packing material untreated.
2. Stock and packing material both dipped in chemical solutions.
3. Stock untreated, packing material dipped in chemical solutions.
4. Dipped stock heeled in, in sand outside.
5. Stock untreated, packing material untreated.

In the preceding treatments 2,300 Chinese elms were used, and of this number 300 were used as untreated checks. The stock was stored at 40 to 50 degrees after treatment.

Examinations of the treated seedlings showed that the boric acid dip checked the development of the root rot for considerable periods of time, but caused injury to the roots of the plants. When seedlings dipped in boric acid were planted in the greenhouse, their leaves showed typical borax injury symptoms. The sodium perborate dip appeared more promising, since it checked the rot and did not cause serious chemical injury to the roots. However, the untreated checks heeled in, in sand outside, were in considerably better condition than any of the treated stock.

The most practical method of control of the chalaropsis root rot of Chinese elm appeared to be the storage of the seedlings either inside at temperatures just above freezing or outside in fine-sand heel-in beds.

Recommended Methods of Control.

In the great plains region experience has shown that the handling of Chinese elm nursery stock should be considered separately for northern and southern nurseries.

Northern nurseries. Preliminary

laboratory tests made in thermostatically controlled ovens showed that *C. thielavioides* developed very slowly at temperatures just above freezing. This agrees with similar tests made by Miss Longree (3). Storage of Chinese elm stock at low temperatures, therefore, appeared to be most feasible and the least difficult method of control, provided certain additional precautions mentioned in succeeding paragraphs were taken.

On the basis of numerous examinations extending over a period of several years it has been concluded that, regardless of the type of storage used, the Chinese elm stock should be handled very carefully prior to storage. Root-pruning should be done with a sharp knife and excessive wounding should be avoided. This is important, since *C. thielavioides* is distinctly a wound parasite and Chinese elm roots are succulent and easily bruised. Since Chinese elm roots are succulent, they can stand considerable desiccation without detrimentally affecting the vitality of the plants. It is well known that high humidity favors the development of fungus growth and for this reason it should be avoided in the storage of Chinese elm. Low humidity is rather dangerous to maintain in storage cellars where other species of seedlings are being stored. For Chinese elm this can best be accomplished by covering the roots with dry shingle tow or sphagnum moss. This material will normally absorb enough moisture from the atmosphere to give adequate protection to the Chinese elm roots.

Digging and lifting of Chinese elm stock should never be attempted during freezing weather since the roots of this plant are especially susceptible to freezing injury. This, of course, is the only safe procedure for all digging operations. Once the roots of Chinese elm are frozen the chalaropsis root rot cannot be checked and there will be eventually a complete destruction of the root system. Furthermore, digging operations should be so regulated that the stock will not be left in the field overnight after undercutting, because after the soil has been loosened and air pockets have formed, Chinese elm roots are easily frozen.

For inside storage, then, the root rot can be fairly satisfactorily controlled by storing unfrozen Chinese elm stock at temperatures between 35 and 38 degrees maintained with low humidity. The objection to inside storage is that it is difficult to meet these re-

⁶The writer wishes to acknowledge the assistance of Drs. K. F. Baker and J. E. Livingston in these studies. Acknowledgment is also due the Prairie States Forestry Project for supplying most of the Chinese elm stock used in the tests.

⁶Baker, K. F., formerly junior pathologist, Division of Forest Pathology, Lincoln, Neb. Unpublished report, 13 pages. Experiments on control of Chinese elm root rot by treatments, 1936.

quirements in ordinary types of storage cellars.

For outside storage, deeply heeling in the Chinese elm in a fine sandy soil at an angle of not less than 45 degrees has given best results when the surface of the heel-in bed is protected with a deep straw mulch. The heel-in site should be shaded during the spring to maintain a low soil temperature. Heel-in beds in heavier soil are less satisfactory, but can be used if there is good drainage to prevent continued saturation of the soil. In heavy soil it is somewhat more difficult to maintain low soil temperatures during the spring since the dark color absorbs heat.

Another necessary precaution is not to move the stock from winter storage to temporary field heel-in beds until planting operations are ready to proceed. Root rot requires a period of only a week to ten days to cause serious destruction and, therefore, good stock can be readily ruined during the spring in temporary shallow heel-in beds where temperatures are uncontrolled.

Southern nurseries. Root rot is likely to give most trouble in the south, because early spring temperatures not uncommonly reach 70 to 80 degrees. Since winter temperatures are mild, the best way to reduce the chalaropsis root rot is to leave the seedlings in the nursery and dig them in the spring just before they are needed for planting. This practice cannot be recommended for northern nurseries because of the danger of severe top killing and root injury during the winter.

Summary.

Chalaropsis thielavioides Peyronel has been described as causing a disease of lupine in Italy, a graft disease of walnut in England and a graft disease of roses and a serious storage root rot of Chinese elm nursery stock in the United States.

Studies to control the root rot on Chinese elm are described.

Chemical dips such as mercuric chloride, Semesan, formaldehyde, Bordeaux, lime-sulphur, boric acid and sodium perborate failed satisfactorily to control the chalaropsis root rot on Chinese elm.

In northern nurseries best control has been obtained by storing the stock inside at low humidity at temperatures between 35 and 38 degrees or by storing the stock outdoors in deep

heel-in beds of fine, sandy, well drained soil covered with a straw mulch.

In southern nurseries it is best to leave the stock in place until spring and dig it just before planting time.

Precautions against excessive wounding and freezing are prerequisite to control measures, no matter what type of storage is used.

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REORGANIZE U. S. D. A.

Secretary of Agriculture Claude R. Wickard December 14 announced a reorganization of the Department of Agriculture's administrative machinery and the formation of an agricultural defense board, composed of eleven department officials, to assist in directing vital wartime programs of the department. Through the reorganization, nineteen line agencies of the department are being placed in eight groups headed by administrators.

E. C. Auchter, chief of the bureau of plant industry, becomes administrator of agricultural research. Under his supervision will be grouped the activities of the bureau of animal

industry, bureau of dairy industry, bureau of plant industry, bureau of agricultural chemistry and engineering, bureau of entomology and plant quarantine, office of experiment stations, Beltsville research center and bureau of home economics.

FAMILY FRUIT NEEDS.

At the national defense gardening conference, at Washington, D. C., December 19 and 20, T. J. Talbert, head of the department of horticulture at the University of Missouri, Columbia, discussed the fruit needs of the average farm family. He said:

"It is estimated that for an average family of six the fruit needs for a year may be met from about twenty fruit trees and 385 small fruit plants. A planting of this extent should produce, on the average, approximately seventy-five bushels of tree fruits, 250 pounds of grapes and 350 quarts of small fruits.

"The number of trees suggested for the average family of six, in addition to those needed for hired help and company, consists of four trees each of apple, pear, peach, plum and cherry. In order to have succession crops of each and good cross-pollination facilities at blooming time, a separate variety may be chosen for each kind of fruit tree. Kinds and varieties must be selected which are adapted to the climatic conditions and the needs.

"For the small fruits, the estimated number of plants includes 250 strawberry plants, seventy raspberry plants, twenty-five blackberry plants, twenty grapevines, ten gooseberry bushes and ten currant bushes."

J. WALLACE MANN.

When the seventh chapter of the California Nurserymen's Association was formed, as reported in the preceding issue, J. Wallace Mann was elected to guide its destinies the coming year as president of the Redwood Empire Nurserymen's Association. He is the proprietor of Mann's Nursery, Petaluma, Cal., growing ornamentals and doing a landscape business, established in 1930.

THE entire stock of the Fairview Nursery, Chehalis, Wash., operated for twenty-three years by W. S. Herzog, has been purchased by Foster's Gardens, Seattle. Mr. Herzog has retired, and William A. Hoyle is in charge.



J. Wallace Mann.

Let's Swap Ideas

TRIMMING EVERGREENS.

All evergreen trees may be safely sheared, and thus kept dense and of a more desirable size and shape, by cutting off a portion of each outside new twig while it is yet soft and succulent (about June 1 in northern Ohio). Some kinds—yews, arborvitae, junipers, retinisporas and hemlocks—may be sheared at any time. Likewise, spruces and firs may be cut back the year around if care is taken to leave at least one bud on each twig, to grow the next spring and form a new shoot.

We generally use small light hedge shears to barber most of the finetwigged conifers, but spruces, firs and pines will look more natural and be more salable in autumn if the new shoots are broken off with one's fingers, so that the young end needles do not show that they have been cut into. It is the top third of an evergreen tree that most requires cutting back, as it grows the most. Usually we cut off all of each new top shoot but about five inches. Some kinds keep growing all summer and so have to have their tops cut back a bit once or twice after the hard shearing June 1.

Most people believe the pines cannot be cut back at all, as the buds are all clustered at the extreme outer ends of the twigs. Pines may only be cut back safely once yearly, about Memorial day. Take off a part of each new shoot before it has begun to get tough and firm; then buds will mature back on the tender new maturing shoot below where the cut was made. If the new pine shoot is cut a little too late, no buds will be formed and eventually the remainder of the new shoot will die, and the next year there will be open places where no new branches have grown, for lack of buds. A good test of the proper time is to break one of the soft sappy green pine shoots; it should snap into two parts easily, like a similar piece of potato, and not break only part way through, like an old branch.

I force most of my evergreens to grow so dense that you cannot stick a finger into them without touching needles. Being dense, they do not show the dead needles inside each autumn when they drop them; hence they never look unsightly and are sal-

This is the readers' own page, open to contributions of ideas which they have found worth while and hence should be of multiplied value if given to the trade at large. Have you something to swap in return?

able all through that part of the year. Being made dense has never seemed to harm any of our evergreens, except perhaps red pine, which seems to lose a branch occasionally in winter so as, I imagine, to let more air inside the branches.

Instead of destroying old open trees that soon will be too large, why not shear and root-prune them, making them into valuable specimens?

W. H. K.

NEWSPAPER COPY.

Because of readers' requests for suggestions as to effective newspaper copy for nurserymen's advertisements, the following quite original and different copy used by one of the large nurseries of the south in a local paper is presented here as an example of unusual interest:

THANK YOU!

IF you are interested in a home, whether planning one or improving one, then it is to you that we say "THANK YOU."

WHY? Because in you rests the individual initiative to plan, to prepare, and to perpetuate the greatest institution. A home to you, whether it be just one or two rooms on a small parcel of ground, or many rooms on several acres is something to work for, cherish, and even fight for if necessary.

IT is because of your interest in making a home more inviting and its surroundings more enjoyable that we are afforded an opportunity of filling a definite need in the community.

WE are vitally interested in making your home, its surroundings, more beautiful in order that you will obtain the greatest enjoyment and use of it. This art of planning and planting is a profession, not guesswork, and it involves experience, knowledge of plant materials, their characteristics, adaptability, etc., and skill.

BASED on our program of enlarging our facilities during the past five years, we have today one of the most complete Landscape and Nursery organizations to be found anywhere. The type of work, its quality of design, the class of plant stocks being used, are symbolic of the best in Landscape Work.

YOUR problem of planning and planting, small or large, will receive the utmost consideration from our consultant Landscape Architect, Leonard Riggs. Each

year our host of friends and patrons increases and we sincerely believe it due to the fact that we embarked upon a program that is filling a definite need in the great Ark-La-Tex territory.

R. LACY NURSERY

Member American Association
Nurserymen

Shreveport — Dallas — Longview

The director of the R. Lacy Nursery is Leonard M. Riggs, prominent in activities of the Texas Association of Nurserymen. A native of Louisiana and a graduate of Centenary College in that state, Mr. Riggs had done postgraduate work in art and interior decoration before actively engaging in landscape work. In 1929 he organized the Walnut Hill Landscape Co., Shreveport, La. He was actively connected with that organization for seven years before he resigned to take over the active directorship of the Rogers Lacy gardens and the R. Lacy Nursery holdings at Longview, Tex.

Besides designing and executing the Lacy gardens, Mr. Riggs has to his credit other landscape projects of equal note, among them the grounds of the Federal Exhibits Museum and the A. H. Meadows gardens, both at Shreveport.

Mr. Riggs has spent a great portion of his time during the past six years in traveling over the United States inspecting and studying landscape work of note and at the same time contacting other nurserymen and men in the horticultural profession.

FARM EQUIPMENT RATING.

The farm equipment industry advisory committee met in all day session December 17 with office of production management officials to discuss the production program to replace the present twenty per cent production cut which expires in February.

OPM officials expressed the opinion that the cut will not be increased further in view of the need of new farm machinery to cultivate and handle foodstuffs essential to prosecution of the war. They said the conference entailed mostly discussion of means to save scarce materials and simplify designs and types of machinery.

Recently the farm equipment manufacturers were raised from a B1 preference rating, the highest civilian rating, to an A8 rating, a rating reserved for defense industries.

Experiences with New Plants in 1941

By C. W. Wood

Jeffersonia Dubia.

Jeffersonia dubia cannot be called new, for it has, no doubt, made Manchurian woodlands beautiful for untold ages; in the sense that it is unknown to gardeners, it can be put in the "new" class. Its rareness (I find it in only one American catalogue) combined with its great beauty should make it a leader in the rare plant nursery and in the hands of neighborhood growers with a critical clientele. It is pleasant to remember, when talking about this Asian, how readily it adapts itself to garden conditions in this country. Many beauties in the plant world, as among human beings, hide a detestable disposition behind their outward masks, but not so with this Jeffersonia. It gives freely of its lovely blue flowers (something like a glorified hepatica), over clumps of pretty foliage, for close to two months in late spring, requiring only a leafy soil in shade. Like many woodland plants, it will need a little attention paid to its moisture needs until it becomes established, but experience here in northern Michigan shows that it is quite able to take care of itself otherwise. Judging by the reactions of our eastern species, *J. diphylla*, it could, no doubt, be easily propagated from fall-sown seeds and division of the clumps, the latter perhaps best immediately following the flowering period.

Dicentra Formosa Alba.

If spring-to-winter production of lovely flowers, clumps of feathery foliage throughout the same long period and perfect ease of cultivation make an outstanding plant, *Dicentra formosa alba* fills the requirements. It is, at the same time, rare enough to be put in the "new" class. During the past year or two, I have noticed it in at least two catalogues, but previous to that it was a real task to find the plant. Just to show you how rare it is, several years ago I advertised for plants, but did not get a reply for over two years. It is a little more plentiful now, though it still remains in the dollar-and-a-half class,

The experiences and observations of this veteran plantsman on perennials of recent introduction are a valuable guide to nurserymen who do not have trial grounds or may not have grown these varieties. The locality of his trials is northern Michigan, and comparison with other tests should be made with consideration of climatic differences.

according to the catalogues consulted. The plant is essentially a pure white western bleeding-heart, with all the beauty that statement implies. It is propagated by division of the root in early spring, if greenhouse facilities are not available, or in winter indoors. In the latter case, the divisions are easiest handled in pots.

Carnations.

One of the disadvantages of living this far north is the inability to enjoy carnations without more fuss and work than a busy gardener has for the task. Heretofore the Grenadin strain has been the only kind we could grow with any assurance of success. That may all be changed now that we have the new Alwood Cottage carnations. I say "may be" because the two winters since I have grown them have been too mild to tell what a cold one would do to the plants. As matters now stand, they have shown their ability to go through short periods of 6 degrees below zero under a good snow mulch. My plants were grown from seeds; so they have shown some variation in color of flower, length of stem, size of bloom and even hardiness. The majority of the plants so far have shown some shade of pink, some beautifully variegated and many with contrasting edges. The stems have generally been long (around fifteen inches) and the doubling good. Practically all have carried fragrance in an intense degree. This all adds up to a strain of carnations that possesses great possibilities not only for us of the north, but for gardeners in more temperate regions, where the

Chabaud and other tender strains can be grown without protection. No doubt, there will be segregated many named varieties during the coming years; in fact, I saw three named forms in an Ohio nursery last summer, which, I understand, will be put on the market next spring. If I am not badly mistaken, they (*Cynthia*, a salmon-pink self; *Lucia*, a rose-pink, tinted salmon, and *Sylvia*, pale rose with silver-white edge) will make a favorable impression on gardeners.

Anarrhinums.

I have been singing the praises of anarrhinums for several years, pointing out their value as landscape plants. No one else seemed to share my enthusiasm, however, evidently because of the rather unshowy nature of the plants when grown singly. It is encouraging, then, to see two kinds, *A. bellidifolium* and *A. crassifolium*, featured in two catalogues of national distribution this year. The average neighborhood grower would not need both kinds, and so far as I can see there is little choice between them. In either case one finds wiry stems up to twenty inches, or a little more, in height, set all along with tiny blue snapdragons. The performance commences in late spring and continues until late summer or autumn, never spectacular from single specimens, but pleasing when grown in large groups in the hardy border or in front of shrubs. Do not grow them expecting something showy; rather look forward to a useful landscape plant of quiet charm. Although spoken of as perennials, they have always been quite short-lived here. That does not, however, detract from their value, for they self-sow freely.

Geums.

If you have not grown the new geums, you have little idea of what these plants can do to pep up your sales. Even this far north, where border geums were formerly much of a gamble (*Lady Stratheden* and *Mrs. Bradshaw* were never hardy here), there are varieties now which we can

plant with the assurance that they will be there the following spring. Fire Opal is the prize of the lot for the north, so far as I know them; in addition to possessing full hardiness, it is especially attractive in its semidouble brilliant orange-scarlet color. It is also a long-distance performer, flowering here from May into late September. I can understand, because of its shy blooming, why growers drop Prince of Orange after a year or two, but that is not a valid reason for neglecting the other member of The Netherlands' royal family, Princess Juliana. In fact, it has much to recommend itself to gardeners, including a blooming season covering late May, all of June and July and sometimes a part of August. The flowers are large, orange-yellow in color, and are quite freely produced. In more favored sections, the two Borsch varieties, Golden West (deep golden-yellow from May well into August) and West Hills (orange) should become popular. The last two are quite hardy, according to their behavior here, getting their sturdiness, no doubt, from one of their parents, G. Borisii. In fact, they often go through our winters unharmed. I am sorry that I am unable to report on the new Wilton Ruby. For unavoidable reasons it had to be kept in pots all summer and consequently had no chance to show its worth. From what I have seen of its excellent color (a pleasing shade of red), I suspect it is going to make a welcome addition to our list of geums. Its hardiness here has not been tested.

In dwarf geums there are an old one, sometimes called Abbey's Orange and at other times Low Orange, just now getting into lists, and two new ones, Gladys Perry and Waight's Brilliant, that deserve your attention. I have not yet tried Gladys Perry in the open and so am unable to report on its hardiness. But even if tender its abundance (so abundant, in fact, that the foliage is almost hidden) of orange-yellow flowers on 3-inch to 4-inch stems would deserve special care. Low Orange is also a Perry introduction, as I remember it, with orange-yellow flowers an inch across, on foot-tall stems, during June. I do not now recall many plants of recent introduction that have made a better impression on me than that created by the little geum, Waight's Brilliant. It seems to have about everything, including a flowering period that cov-

ers June, July and August (perhaps longer under ideal conditions, which means some shade and moisture), a showy color (brilliant orange-scarlet), small size of plant, (about four inches) and a hearty constitution. Named forms of geums are propagated by division of the clumps, preferably, according to my experience, in early autumn, the unrooted as well as the rooted pieces being planted in pots of sandy soil and grown during the winter in a cool house or frame heated above the freezing point, if that is available.

Tradescantias.

I have written before in this column about the new United States Department of Agriculture tradescantias, but should like now to repeat briefly to complete these 1941 notes, if for no other reason. There is another reason, however, for few of the neighborhood nurseries visited last summer had a single tradescantia to offer. If these growers had known how attractive these tradescantias really are, I am sure that all would have had them on their premises. From the rosy mauve of Pauline to the blue-centered white of Iris Pritchard and the rich velvety purple of Purple Dome, they have attractive colors to recommend them to gardeners. And in addition to that, they have the perfect ease of culture possessed by ordinary garden tradescantias and a pleasing increase in size of flowers. They are easily increased by division of the clumps or from cuttings at any time of the growing season.

Kniphofias.

Like astilbes, I seldom grow kniphofias, but for another reason, their tenderness to cold. Even at that, I usually have one or two kinds under observation, and right now it is the stately K. alaidoides maximus. It will grow seven feet tall under good conditions, which includes a rich, well drained soil and attention from the hose during dry weather. Each stem ends in a long spike of bright orange-scarlet flowers. A long blooming season during the summer (mid-July to mid-September here, if everything goes well) merely adds to the value of a good garden ornament. It is not hardy here and I have no idea how much cold it can stand, but it is easily wintered in a cellar, as northern gardeners handle other red-hot pokers.

This paragraph, unlike most comments made in these columns, which are based on actual experiences in my own experimental plantings, has its foundation in observations made in other nurseries during the past two years. Coming from short acquaintance, they may not reveal all the shortcomings and virtues of the plants under consideration, though I hope they are not too far wrong. Of the late summer-flowering kniphofias, Goldmine is the most attractive kind of recent introduction that has come to my notice. That is true principally because of its pleasing color (amber tinted gold, according to one nurseryman), but of almost equal importance is its free-flowering habit, a character not possessed by the pretty golden-yellow Towers of Gold. Reports have it that Goldmine is quite hardy. A good companion for the latter is a plant that I saw in an Ohio nursery last summer under the label of Primrose Beauty, a free-flowering plant of stately habit (the stems were three feet or more tall) and a pleasing color well described by its name. I understand that it will be introduced this spring, as will two other early-flowering kinds (July and perhaps late June), Golden Scepter and Springtime.

The former's buffish-yellow flowers would, in my opinion, suffer by comparison with some of the late bloomers, but it will likely be welcomed by gardeners for its early blooms. On the other hand, Springtime's combination of coral-red and pale yellow would be attractive at any season. I shall be badly mistaken if the latter does not become popular immediately. Both kinds grow up to three feet in height.

Astilbe Arendsii Fanal.

Because my soil is too dry to grow astilbes well, I seldom bother with any of them long, but the description of A. Arendsii Fanal sounded so attractive that I was persuaded to try it. Its rich red color, the most vivid of any astilbe that I have ever seen, justified the purchase, as it no doubt will for any lover of these attractive plants. If and when astilbes are forced as they were formerly, the brilliant color of Fanal should make it a favorite. In the meantime, gardeners will take kindly to it. Ordinarily it is propagated by division in early spring.

[To be continued.]

Radio Advertising for Retail Nursery

By John W. Sarber

Radio advertising for the retail nurseryman is a subject with many angles, and to plot all of those angles in this discussion would take many hours. My experience has taken me through sixteen years in advertising, and I find that I still have much to learn about the use of black and white and the microphone.

The Sarber Nursery Co. has developed largely through the medium of radio advertising—not by experimental dabbling for one year, but through continued use, although some periods were lean and not over-productive of results. That was necessary, however, for a proper build-up.

Many advertisers using radio expect it to pay out in the first year—to bring in a golden harvest of nickels, dimes and dollars without the build-up which I just mentioned. After all, radio is showmanship—you wouldn't expect Hollywood to launch another Garbo without a build-up; it brings more money to the box office to have a name that clicks with the public. But, unlike Hollywood tactics, you can't exaggerate when you sell over the air. Words like "stupendous" and "gigantic" don't go on the air.

A great many failures in advertising have been due to exaggeration. When advertising nursery stock, tell the truth, both as to size and quality, and your success will last longer and be just as great. You'll get the volume of business if you present the facts. If anything, understate when referring to size, and then when your customer receives the shrubs or trees through your announcement he will be twice as pleased with his bargain. Don't undervalue word-of-mouth advertising which you will receive from that contented customer; his good words to the neighbors all mean new business.

In our advertising, we have always insisted upon ad lib. announcers—air salesmen who can talk with conviction and not sound as though they were reading directly from a catalogue.

Of course, we give our announcers the complete story. We put all the facts on paper for them to study, and

Because his retail nursery business at Topeka, Kan., has been built largely by the use of radio advertising, the subject is one on which John Sarber can give sound practical advice, as he did in this talk before the recent meeting of the Kansas Association of Nurserymen, at which he was elected president.



JOHN W. SARBER.

The new president of the Kansas Association of Nurserymen, John W. Sarber, was born in western Kansas, October 28, 1888, and has resided in Kansas a large part of his life. "Through my interest in horticulture," he explains, "I started in the nursery business in 1929 on a small scale and developed this business to the point of now having five acres in city display space. Stock is grown on my farm in Osage county. Forty-eight acres are now being used in the growing of nursery stock of all kinds except fruit stock; the total acreage of this farm is 230 acres. Twenty-five acres more is being planted at this time to orchard. I was associated with a radio station in an executive capacity for fifteen years, retiring January 1, 1940, to devote my entire time to the nursery business. I have made a close study of the marketing of nursery stock by radio and publication advertising for sixteen years. Our aim has been to grow just enough stock to keep our regular crew busy during the off months. The Sarber Nursery Co. is composed of myself and wife, and it has been a most harmonious partnership through the thirteen years of its existence. We both have our own duties; Mrs. Sarber looks after the office details and part of the buying and other administrative duties, while my work is to keep up the advertising copy and the selling, packing and shipping. In other words, we like the business that we are in, which is half the battle."

then let them find their own approach for producing results for us—in their own style and in their own words. We experiment with package deals and specials; we give those offerings a chance to prove whether the buying public wants them or not. If a deal or special does not bring response within four or five days, we pull it off—and substitute something with more appeal. Don't try to make your customers buy something they don't want—give them what they do want.

Close relationship must exist between the advertiser, the broadcasting station and the announcer. Know the station; find out what it can do. Study the program schedules; learn by experimenting what time of day will give you the greatest value. Each turn of the clock brings a different type of audience or changes its buying mood.

We have found that fruits of all kinds move better in the early morning hours; ornamentals will sell in the afternoon or evening hours.

Therefore, we take advantage of what we have learned and place announcements where they will be heard by the audience that is waiting to buy what we have to sell. Maybe you will encounter this difficulty—we do—maybe you can't get the time you would like to have because the radio station has previous commitments. In that case, we get as close to what we want as possible—and then construct our announcements to fit the time which we can get.

Part of the inability to buy time on a radio station is due to the fact that nursery advertising is seasonal—four months of the year at the most. Other advertisers are able to buy right across the board, twelve months of the year, and naturally they gain an advantage.

Let me outline briefly the results obtained from a station not many miles from Lawrence. In the spring of 1941 this station returned us approximately \$12 worth of business for every dollar we paid it in advertising.

The time was bought outright and

was not on a percentage basis. We do not have any stations broadcasting for us on a percentage basis. If a station cannot pay out in a certain length of time, it is taken from our list. We require a station to begin showing results the second year, but if the results are too unsatisfactory, we eliminate it at the end of one year.

Another essential in the success of radio advertising is to limit the

amount of advertising that you do on a program. Short announcements will pay better returns than long, tiresome, detailed descriptions of what you are offering for sale. Don't tire your listeners—keep them interested, but also entertained! On our programs we give three short sales talks in a 15-minute program—not more than four minutes of a quarter hour is devoted to advertising.

concentrated areas around the trees. Best results were obtained by applying the chemical in solution at the rate of one pound to the gallon of water. The addition of iron sulphate to the soil increases the amount of soluble iron available to the plants.

Another soil treatment consisted of the application of 1,000 to 2,000 pounds of sulphur to the acre. The purpose of the sulphur was to change the reaction of the soil from alkaline to acid, thus making more soluble the iron that might already be present in the soil.

Other methods of treatment tried out were the application of iron salts direct to the interior of the trees by boring small holes in the trunk and filling the holes with the salts, or exposing the cambium and placing cloths saturated with iron salts around the wound. Such treatments have in the main been unsatisfactory. Best results have been most consistently obtained from spraying with an iron sulphate solution of one-half to one per cent strength. Stronger solutions are more likely to cause the foliage burn. The spraying has to be repeated every thirty days or oftener to cover new leaves which form. The iron is not transferred from one leaf to another.

Treatment for Chlorosis

Chlorosis is a disease of plants characterized by yellowing of the foliage and caused by lack of chlorophyll, the green coloring matter in plants. The disease may follow certain definite patterns, but the cause cannot always be determined by these patterns. Yellowing of the foliage may be due to one or more of the following causes: (1) Pathogenic diseases, such as peach yellows, stem and leaf rusts and mosaic diseases; (2) Excess of plant nutrients. For example, an excess of copper, boron or zinc will cause chlorosis, although this type of chlorosis is not common; (3) Deficiency of plant nutrients. A lack of nitrogen, boron, magnesium, sulphur, iron or any one of several other elements may cause chlorosis.

The type of chlorosis discussed here is that caused by plant food deficiency. In central and western Kansas chlorosis is quite common among trees and shrubs and has been found in all cases studied to be due to a lack of iron. The yellowing occurs between the veins of the leaves, causing a streaking or veining effect. More of the chlorosis studies in Kansas were carried out at the Hays experiment station by E. W. Johnson, now with the southern great plains field station, at Woodward, Okla. In all cases, the disease was found due to lack of soluble iron.

There is more likely to be a shortage of available iron in alkaline soils because the iron is found in an insoluble form. In acid soils the iron is found to be more soluble and therefore available to plants.

In one series of experiments a three per cent solution of iron sul-

phate was applied as a spray to the foliage. Among the plants which responded to this spray were cottonwood, *Spiraea Vanhouttei*, *Cotoneaster acutifolia* and *Berberis Thunbergii*. The three per cent solution was found to be too strong for some plants, in which cases it was necessary to use a spray as weak as one per cent or even one-half per cent.

In attempting to combat the disease by changing the soil reaction it was found that the application of 150 pounds of iron sulphate per acre was ineffective. Applications up to 1,000 to 2,000 pounds per acre were found necessary. The applications were more effective when applied in

Cedar Blight

Cedar blight was first reported in 1895 from Iowa. In spite of its having been known to science for this long period, little progress has been made in controlling it. The reason for this is found in the fact that the disease is not continuous; that is, it does not occur every year. Some years it seems to disappear entirely, only to be followed by a serious outbreak in the following year. Cedar blight assumed serious proportions in 1940 and 1941. Its periodic occurrence makes scientific study of the disease rather difficult.

Practically all species of juniper are susceptible to cedar blight, and some of the thuja are at times attacked. *Juniperus virginiana*, red cedar, is the most susceptible, while *Juniperus scopulorum*, Colorado juniper, is only about one-third as susceptible as red cedar. The mortality

from cedar blight is greatest among young seedlings and transplants, but the disease will seriously injure trees 10 or 12 years old.

There appears to be some relationship between the weather and blight. A mild fall with plenty of moisture is usually followed by attacks of blight. It is estimated that the loss from cedar blight in government nurseries in Kansas and Nebraska alone was between \$8,000 and \$10,000 in 1941.

Experiments conducted by the United States Department of Agriculture during 1941 show that the disease spreads from plant to plant. Disease-free red cedar seedlings from western Kansas were planted in a nursery in central Kansas adjoining seedlings already affected by cedar blight. The healthy seedlings soon acquired the disease and by the end of the season were as badly affected as the seedlings which gave them the disease. The blight was worst in the

[Concluded on page 25.]

Notes on a talk given by Dr. Harold Myers, associate professor of soils, Kansas State College, at the recent meeting of the Kansas Association of Nurserymen.

Notes on a talk given by Dr. Ernest Wright, associate pathologist, U. S. D. A., Lincoln, Neb., at the recent meeting of the Kansas Association of Nurserymen.

Coming Events

ON THE CALENDAR.

The following list of meetings the coming winter includes those whose dates are known to have been set.

Secretaries of other state associations are invited to send announcement of date and place, so that it may be included in the next issue.

January 6 to 8, Western Association of Nurserymen, Muehlebach hotel, Kansas City, Mo.

January 7, Missouri Nurserymen's Association, Muehlebach hotel, Kansas City.

January 7 and 8, Ohio Nurserymen's Association, Netherland Plaza hotel, Cincinnati.

January 9 and 10, Nebraska Association of Nurserymen, Capital hotel, Lincoln.

January 12 and 13, Georgia State Nurserymen's Association in connection with the University of Georgia short course, Nolman hotel, Athens.

January 13, Massachusetts Nurserymen's Association, Hotel Kenmore, Boston.

January 13 to 15, Illinois State Nurserymen's Association, Hotel La Salle, Chicago.

January 15 to 17, North Carolina Association of Nurserymen, Y. M. C. A. building at North Carolina State College, Raleigh, in connection with short course.

January 16, New York State Nurserymen's Association, Hotel Rochester, Rochester.

January 19 to 21, short course for nurserymen, landscape gardeners and arborists, Ohio State University, Columbus.

January 21 and 22, Indiana Association of Nurserymen, Antlers hotel, Indianapolis.

January 21 and 22, Oklahoma State Nurserymen's Association.

January 22, A. A. N. eastern regional meeting, with Long Island Nurserymen's Association, Garden City hotel, Garden City.

January 26 and 27, Iowa Nurserymen's Association, Kirkwood hotel, Des Moines.

January 27 and 28, New Jersey Association of Nurserymen, Hotel Hildebrecht, Trenton.

January 28 and 29, Michigan Association of Nurserymen, Hotel Hayes, Jackson.

January 29, Oregon Association of Nurserymen, Heathman hotel, Portland.

February 3 and 4, Wisconsin Nurserymen's Association, Hotel Schroeder, Milwaukee.

February 3 to 5, New England Nurserymen's Association, Hotel Kenmore, Boston.

February 4 and 5, Tennessee State Nurserymen's Association, Cleveland.

February 4 and 5, Pennsylvania Nurserymen's Association, Hotel Harrisburger, Harrisburg.

February 9 to 14, short course in nursery management, New Jersey college of agriculture, Rutgers University, New Brunswick, N. J.

February 13 and 14, nurserymen's conference, Cornell University, Ithaca, N. Y.

February 16 and 17, Northern Retail

Nurserymen's Association, Andrews hotel, Minneapolis, Minn.

February 17 and 18, short course for nurserymen, Purdue University, La Fayette, Ind.

NORTH CAROLINA PROGRAM.

The North Carolina Association of Nurserymen will meet at the Y. M. C. A. building at North Carolina State College, Raleigh, January 15 to 17. The association will meet in connection with a short course offered by the department of horticulture of the college.

Outdoor propagation, pruning of ornamentals, purchase of supplies, new ornamentals for North Carolina and the culture of ornamental nut trees are some of the topics on the tentative program.

Jacob Tinga, Sec'y.

GEORGIA PROGRAM.

The fifth annual meeting of the Georgia State Nurserymen's Association will be held at Athens, in connection with a short course at the University of Georgia, January 12 and 13. High lights of the program of the business meeting, January 12, are as follows:

Round-table discussion of nurserymen's problems, led by H. M. Dudley, president.

"Defense Landscaping," by Clarence Baughman, landscape architect, Atlanta.

Report by J. H. Girardeau, state entomologist, Atlanta.

Address by Roy Bowdoin, professor of horticulture, University of Georgia.

Address by John A. Shulte, professor, landscape department, University of Georgia.

Reports of committees and discussion.

Election of officers.

ILLINOIS PROGRAM.

The complete program of the twenty-sixth annual meeting of the Illinois State Nurserymen's Association, at the Hotel LaSalle, Chicago, January 13 to 15, is as follows:

JANUARY 13, 2 P. M.

President's address, by Charles Fiore.

Treasurer's report, by Elmer Palmgren.

Annual regional conference of the American Association of Nurserymen, Arthur H. Hill, regional committeeman, presiding.

"Our Goal in 1942," by Edwin J. Stark, president, A. A. N.

Panel discussion, "The Nurserymen's National Interests," with introduction by Richard P. White, A. A. N. executive

secretary. Members of the executive committee will participate. Subjects are: National defense garden program; wage-hour law cases, exemptions, etc.; social security act and contemplated changes; trade barriers; Interstate Commerce Commission truck rulings; priorities and allocations; 1942 convention plans, etc.

JANUARY 14, 2 P. M.

"How to Use Plants in Landscape Design," by F. A. Cushing Smith, landscape architect, Chicago.

"Making Plans for Population Growth in the Metropolitan Area of Chicago," by Robert Kingery, general manager, Chicago Regional Planning Association, Chicago.

"Twenty-third National Flower and Garden Show, Chicago, March 15 to 22," by Robert H. Roland, executive secretary, Society of American Florists, Chicago.

Motion picture, "And Beauty Comes," presented by William E. Shatwell, fertilizer department, Swift & Co., Chicago.

JANUARY 15, 10 A. M.

Meeting of the Illinois chapter of the American Association of Nurserymen.

JANUARY 15, 12:15 P. M.

Luncheon and entertainment. Address by Howard Leonard, director, Illinois department of agriculture, Springfield.

"Advertising and Publicity for Nurserymen," by W. Ray Hastings, chairman, All-America Rose Selections, Harrisburg, Pa.

Business session: Committee reports, election of officers.

MASSACHUSETTS PROGRAM.

The annual meeting of the Massachusetts Nurserymen's Association will be held at the Hotel Kenmore, Boston, January 13. The program follows:

MORNING SESSION.

Registration.
Roll call and general business.
"The Agricultural Setup in Relation to the War," by Howard S. Russell, secretary, Massachusetts farm bureau.
"Camouflage," by Lieutenant Ralph E. Ketchum, camouflage officer, harbor defenses, Boston.

AFTERNOON SESSION.

"The Nurseryman and the Agricultural Fair," by A. W. Lombard.
Unfinished business.
Kodachrome forum of slides.
Horticultural quiz.

At the twenty-fourth annual Union Agricultural Meeting, at Worcester, Mass., January 7 to 9, the Massachusetts Nurserymen's Association will have a part in the program on January 8.

In the morning a talk on hardy chrysanthemums and other perennials, illustrated in color, will be given by Cornelius P. Van Tol, president of the Massachusetts Nurserymen's Association. Also in the morning Lloyd A. Hathaway, secretary-treasurer, will give an address entitled "Nature's Gardens," illustrating his remarks with Kodachrome pictures of Glacier national park,

Crater lake and the Butchart Gardens at Vancouver.

Included in the afternoon program will be a talk on "Color in the Landscape," by Dr. Donald Wyman, of the Arnold Arboretum, Jamaica Plain, Mass. Natural color slides of flowering trees and shrubs will be shown.

NEW YORK PROGRAM.

The program for the convention of the New York State Nurserymen's Association, to be held at the Hotel Rochester, Rochester, N. Y., January 16, has been announced, as follows:

MORNING.

Registration at 9:30.

Welcoming address by President Henry Maxwell, Geneva. Committee reports. Appointments of nominating committee. "Landscaping Small Properties" and "Helping the Customer Make Up His Mind," by Prof. J. P. Porter, Cornell University, Ithaca.

"New Technique in Landscape Plan Selling; a New Method of Customer Approach," by Prof. Thomas J. Baird, Cornell University.

Group meetings: Catalogue problems, John Kelly, Dansville; agency problems, Carl Boone, Geneva; production problems, R. L. Holmes, Newark, and landscape and sales garden problems, Schuyler Arnold, Coldwater.

Luncheon—Frank LaBar, Stroudsburg, Pa., vice-president of American Association of Nurserymen, guest speaker.

AFTERNOON.

Reports on department of agriculture activities, reciprocal trade agreements, Japanese beetle, disease of peaches and Dutch elm disease control work, by Dr. A. B. Buchholz, director of the bureau of plant industry, department of agriculture, Albany.

"The Nursery Business During and After World War No. I," by W. J. Maloney, Dansville.

Election of officers for 1942.

"What Cornell University and the New York State Experimental Station Can Do for Nurserymen" and "What Nurserymen Can Do to Make Their Work More Effective," by Dr. C. E. F. Guterman, director of research, Cornell University.

Round table open forum. Question-and-answer period, by entire convention. Answers will be supplied by a specially selected board of experts.

NEBRASKA PROGRAM.

The annual meeting of the Nebraska Association of Nurserymen will be held January 9 and 10 at the Capital hotel, Lincoln. An informal meeting will be held at 7:30 p. m., January 8, for nurserymen who want to discuss national affairs and matters which will not be included in the regular sessions. Guests will be Richard P. White, executive secretary of the American Association of Nurs-

erymen, and F. R. Kilner, editor of the American Nurseryman.

The program of the regular sessions follows:

JANUARY 9, 10 A. M.

Annual business meeting and election of officers, at Capital hotel.

Dutch lunch.

JANUARY 9, 1:30 P. M.

Discussion, by Richard P. White.

Discussion, by F. R. Kilner.

"Costs of Growing and Planting," by Vernon Marshall, Marshall's Nurseries, Arlington, Neb.

Question box, led by Vernon Marshall.

JANUARY 9, 7 P. M.

Annual banquet.

Panel discussion on "National Defense Garden Program," by Richard P. White, F. R. Kilner, E. H. Hoppert and Dr. C. C. Wiggans.

Defense film of operations in a major American war industries plant.

JANUARY 10, 9 A. M.

Meeting in room 207, Plant Industry building on the agricultural college campus of the University of Nebraska.

"Agricultural Economics and What Changes Will Take Place as a Result of Our Present Conflict," by Dr. H. C. Filley, of the University of Nebraska.

"Tree Planting Circumstances," by E. G. Maxwell, extension forester.

"The Future of the Fruit Industry and New Moisture Conditions," by Dr. C. C. Wiggans, college of agriculture.

"State Defense Garden Program," by E. H. Hoppert, college of agriculture.

Dutch lunch.

JANUARY 10, 1:30 P. M.

"Latest Developments in the Field of Plant Breeding," by E. R. Baker, college of agriculture.

Lawn grass clinic, by Dr. F. D. Keim and Dr. R. W. Goss.

NEW JERSEY PROGRAM.

The program for the annual meeting of the New Jersey Association of Nurserymen, to be held at the Hotel Hildebrecht, Trenton, January 27 and 28, follows:

JANUARY 27, 9:30 A. M.

Reports of committees.

JANUARY 27, 1 P. M.

President's address, by Walter M. Ritchie.

Discussion of advertising campaign, W. M. Hess, Mountain View, chairman.

Business meeting.

Nomination of officers.

Sales session, conducted by Fred D. Osman, Union county agricultural agent, Elizabeth.

JANUARY 27, 7 P. M.

Banquet and entertainment.

Citation for meritorious service.

Film on plant diseases, shown by Dr. P. P. Pirone, New Jersey college of agriculture, New Brunswick.

JANUARY 28, 9 A. M.

"Better Standards in Landscape Practice," by George Jennings, Ralston.

Report of A. A. N. activities, by Frank S. LaBar, vice-president, American Association of Nurserymen, Stroudsburg, Pa.

JANUARY 28, 1:30 P. M.

"The Nurseryman's Job in Advertising," by Robert W. Eisenbrown, Fairlawn.

"The Nurserymen's Place in National Defense," by Major Peter Rodyenko, engineers corps, second corps area, United States Army.

"New Jersey Weather Facts," by Dr. Erwin R. Biehl, New Jersey agricultural experiment station, New Brunswick.

Discussion of labor and supply situation for 1942; Russell M. Bettes, Princeton, chairman.

Election and installation of officers.

OHIO PROGRAM.

The thirty-fifth annual meeting of the Ohio Nurserymen's Association will be held January 7 and 8 at the Netherland Plaza hotel, Cincinnati. The registration fee is \$3.50 and includes the annual dinner and entertainment. The program, including the preconvention get-together night, follows:

JANUARY 6, 5:30 P. M.

Visit Eden park, Irvin Krohn conservatory, courtesy of the Cincinnati park board.

Cocktail hour, dinner and entertainment, Caproni's restaurant, as guests of the Cincinnati Landscape Association.

JANUARY 7, 9 A. M.

Address of welcome, by James Garfield Stewart, mayor of Cincinnati.

Response, by Harry S. Day, Fremont. Report of secretary-treasurer.

Reports of committees: Local arrangements, by Carl Kern; membership, by Roger Champion; legislative, by C. O. Siebenthaler; camouflage, by Howard N. Scarff.

JANUARY 7, 2 P. M.

"Review of Plant Pest Control Procedures During 1941," by John W. Baringer, specialist in charge, insect and plant disease control, Columbus.

"New Developments in Chemical Warfare on Insects and Plant Pests," by Phelps Vogelsang, Dow Chemical Co., Midland, Mich.

"Milky White Disease of Japanese Beetle," by Dr. George S. Langford, specialist in charge of Japanese beetle work, University of Maryland, College Park.

JANUARY 7, 7 P. M.

Tenth annual "Ye Olde Time Dinner," entertainment, dancing and floor show in Pavilion Caprice.

JANUARY 8, 10 A. M.

"What a Trade Organization Can Do for Its Members," by Willard Crain, past-president, Florists' Telegraph Delivery Association, Cincinnati.

"Proposed Legislation in the Interest of Ohio Nurserymen and Landscape Contractors," by Louis Ginocchio, Cincinnati.

"American Association of Nurserymen," by Frank S. LaBar, vice-president and treasurer, A. A. N., Stroudsburg, Pa.

Report of nominating committee and election of officers.

JANUARY 8, 12:15 P. M.

Luncheon meeting of the Ohio chapter of the American Association of Nurserymen, Peter Cassinelli, president.

Reports of delegates to 1941 convention.

1942 A. A. N. convention.

Report of membership, by Roger Champion.

Election of officers and delegates to 1942 convention.

HILL'S JUNIPER GRAFTS

More than three-fourths of our annual production of grafts have now been sold, mostly to customers who place their orders with us each season.

These are strong, vigorous grafts suitable for lining out in field rows. We urge early placement of orders. Following assortment still available April and May delivery.

Prices \$28.00 per 100 — \$250.00 per 1000

25 of same variety and size at 100 rate; 250 at 1000 rate.

Juniperus chinensis pfitzeriana aurea (Hill Golden Pfitzer Juniper)
Juniperus chinensis pyramidalis blue (Blue Column Chinese Juniper)
Juniperus chinensis sargentii blue (Blue Sargent Juniper)
Juniperus chinensis sargentii green (Green Sargent Juniper)
Juniperus communis depressa, vase-shaped (Vase-Shaped Prostrate Juniper)
Juniperus japonica (Japanese Juniper)
Juniperus scopulorum (Chandler's Silver Juniper)
Juniperus scopulorum (Silver Glow Juniper)
Juniperus squamata meyeri (Meyer Juniper)
Juniperus virginialis, dark green
Juniperus virginiana burki (Burk Redcedar)
Juniperus virginiana cannarti (Cannart Redcedar)
Juniperus virginiana glauca (Silver Redcedar)
Juniperus virginiana pyramidiformis hillii (Hill Dundee Juniper)

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JANUARY 8, 2 P.M.

"Modern Gardens," by M. E. Bottomley, professor of landscape architecture, University of Cincinnati.

"Improved Landscape Practices," panel discussion with W. A. Natorp presiding: "Approach, Selling, Carrying Out the Work in Small Landscape Contracts," by Walter Hillenmeyer, Jr., Lexington, Ky.; "Design, Plants and Cost Charges for Planting," by George Siebenthaler, Dayton; "Wholesaler's Experience with Landscape Orders," by D. B. Cole, Painesville, and "Experiences in Carrying Out Large Contracts," by Richard H. Jones, Nashville, Tenn.

Unfinished and new business.

Selection of place of summer meeting.

OHIO SHORT COURSE.

The thirteenth annual short course for nurserymen, landscape gardeners and arborists will be held at Campbell hall, Ohio State University, Columbus, January 19 to 21.

The first day's program will include discussions of current problems of soils and fertilizers, 1941 studies with shade trees and roses, tractors, cultivators and other tillage tools and drainage problems, by Prof. Alex Laurie, Dr. L. C. Chadwick, R. D. Barden and Virgil Overholt, of the university staff. The selection of narrow-leaved evergreens will be discussed by three outstanding plants-

men from different sections of the east and midwest, including John Siebenthaler, of the Siebenthaler Co., Dayton, O.; Arthur Palmgren, of the Palmgren Nurseries, Glenview, Ill., and Dr. L. C. Chadwick.

Insect and disease problems for 1941 will be discussed the second day. The speakers will include Dr. Paul E. Tilford and Dr. J. S. Houser, of the Ohio agricultural experiment station, Wooster, and Prof. R. H. Davidson, of the university staff. This session, as well as many of the others, will be composed of panel discussions.

Arboricultural problems of 1941 will be the subject of discussion that afternoon, handled by A. Robert Thompson, of the National Park Service, Washington, D. C.; Charles F. Irish, Cleveland, O., and Homer L. Jacobs, of the Davey Tree Expert Co., Kent, O.

The annual banquet, with A. Robert Thompson as guest speaker, will be held that evening.

Wednesday's session will be devoted to landscape planning and planting problems in the morning and to garden flowers in the afternoon. Speakers will be Prof. Ed-

gar W. McElwee, of the Alabama Polytechnic Institute, Auburn, Ala.; Victor H. Ries, of Ohio State University; Adolph DeWerth, Schenley park, Pittsburgh, Pa.; Conrad Link, of the department of horticulture, Pennsylvania State College, State College, Pa., and Arthur Hirt, Strongsville, O.

PROGRAM AT PITTSBURGH.

The winter meeting of the Western Pennsylvania Nurserymen's Association will be held at the Webster Hall hotel, Pittsburgh, January 6, at 2 p. m. A fine program has been arranged, with excellent speakers and unusual entertainment. A buffet dinner will be served at 6:15 p. m. The program is as follows:

2:30—Meeting called. Business.

3:00—Ed. S. Neeley, of the credit department of the People's Pittsburgh Trust Co., will talk on "Bank Credits."

4:00—Entertainment.

5:00—Joseph Hoover, architect, will talk on "The Architect and Landscaping."

6:15—Buffet dinner in the Hunt room of Webster Hall hotel.

7:30—Ed. Bayard, editor and writer, will give "A Talk."

8:30—Entertainment.

The officers for 1942 of the Western Pennsylvania Nurserymen's Association, elected at the board of direc-

tors' meeting December 9, are: President, Dale Schwab; vice-president, Herbert Hoechstetter; secretary, L. E. Wissenbach; treasurer, Charles S. Zimmerman.

Meeting dates for the coming year were set for January 6, March 10, September 1 and November 24.

L. E. Wissenbach, Sec'y.

MICHIGAN PROGRAM.

The program of the twentieth annual convention of the Michigan Association of Nurserymen, to be held at the Hotel Hayes, Jackson, January 28 and 29, has been announced, as follows:

JANUARY 28, 10 A. M.

Visit to the state prison of southern Michigan.

JANUARY 28, 1:30 P. M.

President's address, by Harold P. Paul, Monroe.

Secretary-treasurer's report, by Harold E. Hunziker, Niles.

"Garden Strangers We Should Know," a discussion of new and worth-while plants, by C. K. Guldemon, Galesburg.

"Application and Interpretation of the New Nurserymen's Lien Law," by Kenneth G. Prettie, assistant attorney general, Lansing.

Election of officers.

JANUARY 28, 6:30 P. M.

Annual banquet. Entertainment by Mercury Rangers of the Ford Motor Co. Talk, "Twenty-five Years on the Open Road," by Colonel Welsh, "The Old Traveler."

JANUARY 29, 8 A. M.

Breakfast meeting, A. A. N. chapter. Suggestions for More Continued Employment in the Nursery: "Pottery and Garden Ornaments to Increase Profits," by Bernard Ward, Lansing; "Summer Activities," by Eldon Burgess, Galesburg; "Christmas Decorations," by Arthur L. Watson, Grand Rapids; "Winter Work," by Harold E. Hunziker, Niles.

"What We Can Do About Virus Diseases," by Don Cation, research assistant in plant pathology, Michigan State College.

"Activities of Orchard and Nursery Inspection Department," by C. A. Boyer, director, orchard and nursery inspection service.

JANUARY 29, 1:30 P. M.

"Observation and Recommendations for Prevention and Treatment of Injury to Ornamental Plants Due to Smoke, Gases, Sodium Chloride and Similar Causes," by Forrest C. Strong, department of botany, Michigan State College.

Business session: Report of auditing committee, by Louis Krill, chairman, Vicksburg.

Open forum: Questions and discussions.

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Subscriptions to the American Nurseryman are handled only by mail, and subscribers are warned not to pay money to strangers. If a cut-price or premium offer is made, you will know such strangers are swindlers, because no one is authorized to make such special offers.

OBITUARY.

Ralph Emlong.

Ralph Emlong, proprietor of Emlong's Nursery, died December 10, at his home, near Stevensville, Mich.

He was born June 13, 1894, on the farm of his father, Henry Emlong, pioneer fruit grower. On that 80-acre farm Ralph Emlong started the nursery twenty-seven years ago. His boundless energy built the largest nursery in southwestern Michigan. Starting with berry plants, he added fruit trees and shrubs a few years ago. A new office and packing building was erected on U. S. 12, near Stevensville, about six years ago, and only about a year ago he completed a big modern tree storage house connected to the main building. Emlong's Nursery now owns about 700 acres of land in three townships in Berrien county.

Ralph Emlong was not only a capable businessman, but a good friend to everyone who needed help or advice. His death came after an illness of about two years. During the past year he had been confined entirely to his home.

He left his widow, Jennie V. Emlong, and four grown children. Clifford Emlong, the elder son, will manage the nursery, with which his brother, Darrel, is also associated. Two daughters, Mrs. Ruth Swem and Mrs. Earl Wolfe, reside in California.

Emlong's Nursery, incorporated in 1941, will be operated by the widow and children, who are the sole stockholders.

THE annual meeting of the Missouri Nurserymen's Association will be held January 7, at the Muehlbach hotel, Kansas City, Mo.

NOTES FROM A NURSERYMAN'S WIFE

A few notes on trees in the city may not be amiss, since memories of New York presumably are still fresh in the minds of members of the American Association of Nurserymen.

In 1934 Mayor LaGuardia told the then assembled nurserymen that New York had planted more trees since the beginning of January than any other city in the world, which an editorial writer in the New York Times took as a sign of progress toward the ideal. The Apocalypse describes the place of ultimate happiness as a city in the midst of which are trees of life "on this side and on that" of the river of water flowing through it. Man seems instinctively to try to find space in his cities for the tree, which is the symbol both of paradise lost and paradise regained.

"Some trees," this editor continues, "refuse to live in the city, at any rate in the streets. Some have roots that are too dangerous to water pipes. Some die outright (perhaps from arboreal nostalgia). But there are certain trees that have lived with man—trees that shaded his cradle and that have followed him into the city and still stay with him—'faithful,' as someone wrote years ago, 'in spite of steel, gasoline, pavements, tenements, railroads, sulphur dioxide and slag'; such trees as the Chinese call the tree of heaven, as still lament over Babylon or remember the gusts 'rising from the first man-made fire below.'"

Since Park Commissioner Moses had the vision to plant flowers in the city parks, it is no longer necessary for New York citizens to travel to

1870

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1942

Large growers of Washington-grown

APPLE, MAHALEB, MAZZARD, MYROBALAN
PEAR AND QUINCE SEEDLINGS.

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72 Years at Shenandoah, Iowa



Who offers the nursery trade of this country the greatest line of rare trees and shrubs?

What is the only wholesale nursery list that shows the hardness of each item?

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THE F. E. SCHIFFERLI & SON NURSERIES
Fredonia, N. Y.

the Bronx or to Brooklyn to see a flower garden!

Instead of the old blunt "Keep off" signs, new ones give the warning courteous in these words:

Let no one say, and say it to your shame, That all was beauty here, until you came.

It isn't all plain sailing, even for a Moses or a Rockefeller, when it comes to planting, apparently. Charles B. Driscoll reports that architects and merchants generally agree that more tree planting along Fifth avenue than has been done would be unfortunate, as it would spoil the stunning architectural effect and would hide its store windows from bus riders.

We have seen a picture of a tree stump which stands on the sidewalk at One Hundred Thirty-first street and Seventh avenue, which was moved there by Bill Robinson, famous negro dancer. Called the "Tree of Hope" by Percy Verwayne, Harlem actor, it is a wishing tree they say. Does anyone know more about it?

Speaking of origins, names often tell the story, from the majestic cedar of Lebanon to the small Cos lettuce, which came from the island of Cos. Cherries get their name from Cerasus, a city of Pontus; the peach, or Persian apple, from Persia; the pistachio is the Syrian word for that nut. The chestnut, or chataigne in French and castagna in Italian, comes from Castagna, a town in Magnesia. The damson plums, or damascenes, are easy, as they came chiefly from Syria, particularly Damascus. Now, if you look up all these places in your atlas you will have learned your stint in geography for today.

BULLETINS RECEIVED.

"Forest and Watershed Fires in Utah," by Ernest O. Buhler, fire coöperation specialist in the federal forest service, presents the results of a survey on forest resources in the state made on the application of the governor under section 1 of the Clarke-McNary law. It is published as circular 115 of the Utah agricultural experiment station, Logan. Referring to specific fires and floods, it shows the damage done by the latter when vegetation has been destroyed by fire and hence heavy rainfall cannot be absorbed. The recommendation is for better fire protection for private, county and state forest lands.

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Prices f. o. b. New York.

	1/2 lb.	1 lb.
<i>Abies arizonica</i>	\$1.40	\$3.00
" <i>balsamea</i>65	2.25
<i>Acer dasycarpum</i>35	.70
" <i>ginnala</i> .....	.45	1.50
" <i>platanoides</i> .....	.35	1.10
" <i>rubrum</i> .....	.45	1.50
<i>Æsculus octandra</i> .....	.50	.75
<i>Alnus maritima</i> .....	.50	1.75
<i>Ampelopsis quinquefolia</i> , d.b. ....	.45	1.50
<i>Araucaria excelsa</i> , per 100 seeds, \$2.00; per 1000 seeds, \$15.00. ....	.55	1.85
<i>Aristolochia tomentosa</i> .....	.35	1.25
<i>Aronia arbutifolia</i> , d.b. ....	.45	1.50
<i>Azalea calendulacea</i> , c.s., 1/4 oz., \$1.00 " <i>schlippenbachii</i> , c.s., 1/4 oz., \$1.00	.40	1.35
<i>Benzoin aestivale</i> .....	.50	1.75
<i>Betula nigra</i> , c.s. ....	.55	1.85
" <i>populifolia</i> .....	.55	1.65
<i>Calycanthus floridus</i> .....	.25	.80
<i>Caragana arborea</i>	2.75	10.00
<i>Casuarina cunninghamiana</i> .....	.55	1.85
" <i>stricta</i> , per oz., \$1.25	.80	2.75
<i>Ceanothus americanus</i> .....	.30	.95
<i>Celastrus scandens</i> , c.s. ....	.30	.95
<i>Cercis canadensis</i> .....	.45	1.50
<i>Chionanthus virginica</i> , c.s. ....	.65	2.25
<i>Cladrastis lutea</i> .....	.50	1.80
<i>Cornus alternifolia</i> , d.b. ....	.30	.95
" <i>florida</i> , c.s., washed. ....	.90	3.25
" <i>kousa</i> , c.s. ....	.25	.85
<i>Corylus avellana</i> .....	.35	1.25
" <i>americana</i>	1.50	4.50
<i>Cotoneaster horizontalis</i> , c.s. ....	.45	1.50
<i>Crataegus coccinea</i> , c.s.70	2.50
<i>Cryptomeria japonica</i>90	3.25
<i>Cupressus arizonica</i>35	1.25
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<i>Cydonia japonica</i> , c.s.25	.70
<i>Cytisus scoparius</i>25	.80
<i>Diospyros virginiana</i>25	.80
<i>Elaeagnus angustifolia</i> , d.b. ....	.35	1.25
" <i>argentea</i> , c.s.	1.80	6.50
<i>Epigaea repens</i> , per 1/4 oz., \$1.25	2.75	10.00
<i>Eucalyptus rostrata</i> .....	.45	1.50
" <i>globulus</i> .....	.45	1.50
<i>Fraxinus americana</i> .....	.45	1.50
" <i>lanceolata</i> .....	.45	1.50
" <i>quadrangulata</i> .....	.90	3.10
" <i>velutina</i>	1.35	4.75
<i>Hamamelis vernalis</i> .....	.45	1.50
<i>Hicoria cordiformis</i> .....	.45	1.50
" <i>pecans</i> (Hardy Northern Nat- urals) .....	.65	2.25
<i>Koeleria paniculata</i>	1.95	7.00
<i>Larix leptolepis</i>	1.25	4.50
<i>Magnolia acuminata</i> , c.s. ....	.55	2.00
" <i>fraseri</i> , c.s. ....	.50	1.75
" <i>glauca</i> , c.s.	1.65	6.00
" <i>grandiflora</i> .....	.45	1.60
" <i>soulangeana</i> , c.s. ....	.65	2.25
<i>Morus alba</i> , c.s. ....	.40	1.40
" <i>tatarica</i> , c.s. ....	.40	1.40
<i>Nyssa aquatica</i> .....	.85	3.00
<i>Parkinsonia aculeata</i> , c.s. ....	.70	2.50
<i>Paulownia tomentosa</i>	2.10	7.50
<i>Picea glauca albertiana</i> , Black Hills Spruce.	1.25	4.50
" <i>pungens</i> (Colo.)	1.65	6.00
" <i>glauca</i>	1.00	3.50
" <i>sitchensis</i> .....	.90	3.25
<i>Pinus albicaulis</i> .....	.90	3.25
" <i>banksiana</i>	1.40	5.00
" <i>muricata</i> .....	.35	1.25
" <i>murrayana</i> .....	.35	1.25
" <i>ponderosa</i> (Colo.) .....	.35	1.25
" <i>(Waah.)</i> .....	.35	1.25
" <i>resinosa</i> .....	.65	2.25
" <i>rigida</i> .....	.65	2.25
" <i>strobus</i> .....	.65	2.25
<i>Pistacia chinensis</i> .....	.25	.75
<i>Platanus orientalis</i> .....	.35	1.25
<i>Prunus avium</i> , c.s. ....	.35	1.25
" <i>serotina</i> , c.s. ....	.45	1.60
" <i>spinosa</i> , d.b.	1.50	4.25
<i>Pseudotsuga douglasii glauca</i> (Colo.) .....	.70	2.50
<i>Raphiolepis indica</i> .....	.70	2.50
<i>Rhododendron cunninghami</i> , c.s. per 1/4 oz., \$1.00	.70	2.50
" <i>hybrids mixed</i> , c.s., 1/4 oz., \$2.00	.25	.75
" <i>maximum</i> , c.s., per oz., \$1.10	.50	1.75
<i>Rhodotypos kerrioides</i> .....	.90	3.25
<i>Robinia pseudocacacia</i> .....	.35	1.25
<i>Rosa arkansana</i> , d.b. ....	.35	1.25
" <i>hugonis</i> , d.b. ....	.35	1.25
" <i>rugosa</i> , c.s. ....	.35	1.25
<i>Sambucus pubens</i> , c.s., per oz., \$0.25	2.35	8.50
<i>Sequoiia gigantea</i>	1.90	6.50
" <i>sempervirens</i> .....	.50	1.75
<i>Styrax americana</i>	1.65	6.00
<i>Swietenia mahoganii</i> .....	.35	1.25
<i>Taxodium distichum</i>	2.35	8.50
<i>Taxus cuspidata</i>	1.90	6.50
" <i>media hicksii</i> .....	.45	1.60
<i>Thuja orientalis</i> .....	.70	2.50
<i>Viburnum lantana</i> , d.b.45	1.60
" <i>rhynchophyllum</i> , c.s.45	1.60
<i>Wisteria sinensis</i> , blue.45	1.60
" <i>white</i>45	1.60

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HERBST BROTHERS
92 WARREN STREET NEW YORK, N. Y.



Charlie Chestnut



The Hope Chest

Some place in the background of every nursery is a hope chest, a collection of freak trees and odds and ends. If you don't watch out there comes a time when it begins to clutter up the place. Emil calls his collection, the "Arboretum". It is 99 44/100% rubbish, so the members can see it is a regulation home style arboretum. It is mostly the product of a forlorn hope and an overactive imagination. Emil is always planting something and he has never been known to take anything out.

He was rummaging around in his Arboretum one day last spring when I was trying to run down some stock to fill an order.

"We are short one Norway Spruce on that cemetery job, Emil," I says. "Should I go ahead and pick up one at the F and M or would you sooner let loose of one of these halfbreed trees here in the Arboretum? There is one here that might get by in a pinch."

"Chas., time and again I told you never to dig nothing in the Arboretum, regardless. Theres a fortune laying here in some of these fancy trees. When I get the greenhouse going again, I aim to propagate different stuff. Take these yellow tinted Blue Spruce. Theres a tree that would be a big seller. I'm going to have a color plate made and introduce it to the wholesale trade."

"I been wanting to ask you, Emil, where did you get that washed out looking Spruce? It looks like it was going to kick off, but it always seems to hang on. First I thought the grubs was chewing on the roots, but I dont think its got any roots in the first place."

"Me and old Frank, up to Otter Creek, got together on that. He found it in the seed beds and nursed it along for years. One day I was up there and traded him out of it. Give him a hundred honeysuckle for that one tree. If I get a offer from some wholesaler for \$500.00 I might let it go. Then theres that forsythia with the off colored flowers. I found that right here in the nursery. That spring I picked it I seen

two flowers on a branch right down near the bottom that was white as snow."

"Chances are Emil, what you seen was a weed of some kind that was sticking up through the branches. For 12 years I seen that plant here in the Arboretum, and only once in all them years we had flowers on the forsythia, and all the flowers was just the old mill run puny yellow ones. Why dont you grub it out?"

"Im going to give it a couple of years yet. Believe me if there is so much as half a petal turns out white, Im going to crack down with a patent right quick."

"There aint no wild scramble for forsythia, Emil, white or yellow. Over at the F and M Jake has got 4000 plants and he says he cant give 'em away."

"Jake's stuff is so big it would take a man three days to dig one and then it wouldnt live. Forsythia is coming back, Chas. A member told me at the convention. I was telling him about my white one, and he wants first chance on it. In fact he said if I would get a blue one, he would pay me plenty. Dont monkey with that plant, Chas. I got big hopes for that."

"Probably you even noticed that Lilac with the variagated leaf, Chas."

"It could be Emil, that there is a little more mildew on one branch that give you the idea it was a variagated leaf. And what if it is varia-

gated? People are bound to ask what kind of flowers has it got. How about that? What kind of flowers has it got, Emil?"

"Here it is right here, Chas. There used to be a variegated leaf here some place, but I cant just remember where it was. Seems like it was here on this side." He brushed back the weeds but couldnt find anything but the regulation leaves. "This plant never did bloom. I was afraid to prune it on account of that variegated leaf."

"It looks to me, Emil, like this used to be a grafted lilac, but it was grafted on white ash and now it is mostly run up to brush. You couldnt guarantee it was lilac even if you should ever find that one stray leaf, which aint at all likely. What are you holding this at, Emil, in case we get a call for a lilac with one variegated leaf?"

Emil didnt hear me as he was looking over a half dead stunted pine buried in the weeds. "Here, Chas., is a creeping red pine a lady up in the woods in Wisconsin sent me. Never seen anything like it in my life, Chas. It ought to be a big item for rock gardens. This plant is 20 years old, and thats all the bigger it is. Think of that, Chas. I showed it to John Bushbottom once, and John said he couldnt see anything to it. But I figured John was probably going to try to get me to let it go cheap."

"I think John was right, Emil. It looks to me like the borers just kept working away on the leader until the plant just got discouraged and give up."

"You aint got any imagination, Chas. Where do you suppose all the new varieties come from anyway?

LINING-OUT STOCK

	100	1000	5000
Abies Balsamea, T, 8 to 12 ins.	\$10.00	\$85.00	\$375.00
Abies Douglasii, S, 3 to 6 ins.	2.50	20.00	80.00
Abies Veitchii, T, 8 to 12 ins.	10.00	90.00	.....
Juniper, Andorra, T, 9 to 12 ins.	14.00	110.00	.....
Juniperus Scopulorum, S, 3 to 5 ins.	2.50	20.00	.....
Juniperus Hibernica, T, 12 to 18 ins.	15.00	120.00	540.00
Juniperus Hibernica Fastigata, T, 12 to 18 ins.	15.00	120.00	540.00
Juniperus Suedica, T, 12 to 18 ins.	17.50	145.00	.....
Picea Excelisa, S, 4 to 7 ins.	2.00	15.00	65.00
Picea pungens, T, 8 to 12 ins.	10.00	90.00	400.00
Pinus Resinosa, T, 12 to 15 ins.	6.00	50.00	200.00
Pinus Strobus, S, 4 to 8 ins.	2.25	17.50	70.00
Pinus Nigra Corsica, S, 3 to 5 ins.	3.00	25.00	110.00
Taxus Cuspidata, T, 8 to 12 ins.	16.50	145.00	650.00
Taxus Cuspidata, TT, 12 to 15 ins.	25.00	210.00	945.00
Taxus Cuspidata Upright, T, 5 to 8 ins.	12.50	110.00	500.00
Thuja Occidentalis, S, 2 to 4 ins.	1.50	12.00	50.00
Thuja Occidentalis, T, 5 to 10 ins.	9.00	75.00	350.00
Thuja Occidentalis Compacta, T, 5 to 10 ins.	14.00	120.00	550.00
Thuja Occidentalis Woodwardii, T, 6 to 10 ins.	14.00	120.00	550.00
Azalea Mollis, T, 9 to 12 ins.	12.50	105.00	475.00
Berberis Thunbergii, Upright strain, from seed, S, 6 to 10 ins.	1.50	10.00	45.00
Berberis Thunbergii Atropurpurea, S, 9 to 12 ins.	2.50	20.00	80.00
Berberis Thunbergii Atropurpurea, T, 9 to 12 ins.	4.25	35.00	160.00
Castanea Mollissima, S, 12 to 18 ins.	11.00	90.00

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FAIRVIEW EVERGREEN NURSERIES

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RHODODENDRON HYBRIDS. Grafted, hardy varieties only.

AZALEA KAEMPFERI HYBRIDS. Named varieties; the hardest of all Azaleas for landscape work.

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AZALEAS
AND OTHER
ERICACEOUS PLANTS

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SUPERIOR

Hardy Ornamentals

PRIVET and BERBERIS

Splendid Stock

Write for Special Quotations

LESTER C. LOVETT
MILFORD DELAWARE

Take this soft maple here. Did you ever see one before with bark like that? I found it along the river up north of town. Soft maples has got smooth bark and this here is warty."

"Looks to me like it had a bad case of some kind of an itch. Probably years ago some bugs chewed it up so that the bark never got straightened out. And besides, if the customers want warts let them plant a hackberry and get it over with. I wouldn't bank on warty maples to pay off the mortgage. I'll bet if the state inspector ever got turned loose in here he would go nuts trying to figure what was eating all this rubbish. Chances are half of it is in the last stages of some disease that makes it all look dopey."

Emil was kicking around in the underbrush looking for something. "Chas., did you dig that rose bush I had here? It was right here beside my Dwarf Hemlock. Oh, here it is," he says. "Theres only one branch alive. Must be the rabbits done that. This rose, Chas., is something a rose man would certainly go for. I was telling a member at the convention last winter I had a rose with greenish flowers, and he says he never heard of such a thing. He wants me to send him one of the flowers, but it aint never had a bloom since the first year. There was a white single flower on it that was on the green order. Just a shade of green so that it was off white."

"Sure you wasnt looking thru your green glasses, Emil? Remember you had a pair of sun glasses one year that throwed you off on color. That was the year you accused me of painting the greenhouse green until you took off your glasses."

"This Dwarf Hemlock aint likely to upset the nursery trade, Emil. There is one place in the east where they got 40 kinds of Dwarf Hemlock, which is 39 kinds too many. I could run this in on a landscape job for \$2.00 and get more out of it than it will ever amount to sitting here."

"Chas., here is the difference between me and you. I have got some imagination for nursery stock, and all you can see is just the regular old time stuff. When I put some of these here things on the market, you will sit up and take notice. For instance, take this globe barberry. Its as round as a —, or it was round when I got it. Its bushed up some now, but I picked it up at the church in Lake

GRAFTED STOCK

From 2 1/4-in. Pots

Ready for delivery about May 1, 1942

For southern or far western orders, stock can be shipped late February or early March.

	10	100
Acer palmatum atropurpureum novum	\$3.00	\$27.50
Acer dissectum atropurpum	3.00	27.50
Cedrus atlantica glauca	4.00	35.00
Chamaecyparis obtusa gracilis		
nana compacta	3.00	27.50
Cornus florida alba plena	3.00	27.50
Cornus florida pendula	3.00	27.50
Cornus florida rubra	3.00	27.50
Fagus sylvatica pendula	3.00	27.50
Fagus sylvatica Riversii	3.00	27.50
Ilex opaca femina	3.00	27.50
Ilex opaca Howardii	3.00	27.50
Juniperus columnaris glauca	3.00	27.50
Juniperus columnaris viridis	3.00	27.50
Juniperus chinensis neoboriensis	3.00	27.50
Juniperus chinensis Sargentii	3.00	27.50
Juniperus chinensis Sargentii glauca	3.00	27.50
Juniperus scopulorum glauca	3.00	27.50
Juniperus squamata	3.00	27.50
Juniperus squamata argenteo-variegata	3.00	27.50
Juniperus squamata Meyeri	3.00	27.50
Juniperus virginiana Burkii	3.00	27.50
Juniperus virginiana Canertii	3.00	27.50
Juniperus virg. elegantissima	3.00	27.50
Juniperus virginiana glauca	3.00	27.50
Juniperus virginiana globosa	3.00	27.50
Juniperus virginiana Keteleeri	3.00	27.50
Juniperus virginiana Kosteri	3.00	27.50
Juniperus virginiana Schottii	3.00	27.50
Juniperus virginiana pendula	3.00	27.50
Juniperus virg. pyramidalis	3.00	27.50
Juniperus virg. pyramidiformis	3.00	27.50
Juniperus Sabina Von Ehron	3.00	27.50
Magnolia Alexandrina	3.50	32.50
Magnolia Halleana stellata	3.50	32.50
Magnolia Lennei	4.00	37.50
Magnolia Soulangeana	3.50	32.50
Magnolia Soulangeana nigra	3.50	32.50
Picea pungens Moerheimii	3.50	32.50
Pinus Cembra	3.00	27.50
Quercus Robur fastigiata	4.00	37.50
Thuja occidentalis Douglasii spiralis	2.50	22.50
Thuja oc. elegantissima	2.50	22.50
Thuja oc. lutea, Geo. Peabody	2.50	22.50
Thuja occidentalis lutea, B. & A. type	2.50	22.50
Thuja occidentalis nigra	2.50	22.50
Thuja oc. Rosenthalii	2.50	22.50
Thuja occidentalis Wareana (sibirica)	2.50	22.50
Thuja orientalis aurea nana	2.25	20.00
Thuja orientalis conspicua	2.25	20.00
Thuja orientalis elegantissima	2.25	20.00
Taxus media Brownii	3.00	27.50
Taxus media Hatfieldii	3.00	27.50
Tsuga canadensis pendula	3.00	27.50

HESS' NURSERIES

P. O. Box 52

Mountain View, New Jersey

Park. The janitor said he hadn't never laid a hand on it, and there it was as round as anything. So I made a deal for it. I give him a Christmas tree for the church."

"I know about that bush, Emil. The janitor told me one time he thought the boys had been riding their bicycles over it and kept the ends of the branches broken off. You can see for yourself it aint any more round than a bannana. And besides its a common barberry which is against the law to have on the place, let alone trying to sell it. Better get rid of it before the state inspectors give you the final notice."

"Heres a runty Arbovitae with a big label on it, Emil. Looks like a ordinary mill run wild tree out of the woods," I says.

"Thats a tree I got from my wifes sister in North Dakota. Stands 40 below zero. I got that on contract. She wants 25% of whatever I sell. Some day that tree will be a big seller all over North Dakota. I never had room to propagate it. She bought it from a little nursery up there. The man said it was a Siberian, but it aint. Im going to call it Polar Bear Arbovitae."

"I aint saying it wont be a winner, Emil, but some how I just aint carried away with the idea."

"What in the world is this monstrosity, Emil? Looks like a cross between a pieplant and a burdock. Where did this come from?"

"That was mixed in a bundle of alpine currents I got one time from John Bushbottom. John shipped me the stuff from someplace in the wilds of Tennessee, some stuff that was gathered in the woods. I didnt know what it was, so I put it in here. I showed it to one of the members from Alabama one time, and he told me the woods was full of it, some kind of a mother-in-law weed he called it. If you once get it, you always have it, and can't get rid of it. It aint never had a flower here as it always gets frosted too soon in the fall."

"Thats a good thing for you, Emil, otherwise we would have it all over the place like we got the sourdock. Lets pull it out while we think of it." We grabbed hold of it and pulled until Emil got red in the face and sprained his back so we left it where it was. "It don't hurt nothing there anyway," he says, "and furthermore

we got the only one any place around here. I aint never seen it in an Arboretum before."

"Someplace here, Chas., I got a redcedar that looks just like a Cannarti. I picked it out of the seedlings I got from whats his name in Iowa. You know who I mean Chas. Remember he threatened to sue me for the bill, and I sent him some osage orange. Anyway, this tree is just a dead ringer for a Cannarti."

"So what?" I says. "Somebody beat you to it on that. You cant come around with a tree thats been in the trade for 50 years and start talking it up for something new."

"There you go again, Chas., running things down. Didnt you ever hear of an improved form. Half the nursery stock that is sold is the same old stuff put out under the name of a new improved strain. This here might be a improved strain. I know of one nursery that has got 28 kinds of new improved strains of the redcedar, and he is so bogged down with names he is using numbers instead of names. He says he aint half thru yet, and if he could think of some good names he would put a couple of dozen more out. The only thing he says makes it bad, nobody knows what he is talking about when he puts the stuff in the catalog. Maybe I could make him a trade for my Cannarti so he could add it to his collection. What should I ask him for it, Chas., for exclusive rights?"

"I could use that tree on Mrs. Brewsters job, Emil. I need a Juniper about 8 feet. I could pawn it off for a redcedar and she wouldnt know the difference. Chances are she wouldnt even know it was only a phony redcedar if we didn't mention it to her."

"You might as well go ahead and use it, Chas. We can always get some cuttings if I decide to bring it out and make something of it."

"By the way, Chas., when we make up the cuttings this winter, I want to make a batch of this Jap Quince. This here Quince is a special. One I picked up at the school grounds in Lake Park. Its off color a little. Seems like it run a little on the pink order, and the leaves was different too."

"That stuff on the leaves was the cedar rust. Always makes them wither up and kind of spotted. That aint nothing new to have yellow spots on the quince, Emil."

"Anyway the flowers was different," says Emil.

"Maybe you seen it after the flowers was about over and faded out to a washed out color. We aint got room to clutter up the propagating unless we got something we can sell."

"Heres my lilac collection, Chas. We got to get in here and straighten it out. Someplace in here I got a new variety. One time my wife picked a bouquet, and there was an odd one in the lot. I couldnt ever find the plant where she got it, so I never sold any of these plants until I can find that bloom again. It was a double white, and a dandy, looked like a General Walton. I always figured I would introduce it to the trade."

"So far as I know Emil, there is at least 25 double whites in the world, and there aint anybody living or dead could tell all the kinds if they was layed side by side. In fact, Emil there ought to be a rule by the Washington D.C. office that anybody that brings out a new lilac should be confined to the bug house for 30 days."

"What about that Spruce for the cemetery job, Emil? Shall I dig one

5-N-1 APPLE!

All variety limbs grown out— $\frac{3}{8}$ -in., 35c each; $\frac{1}{2}$ -in., 40c. These five varieties on each tree: **Dark Red Delicious**, **Dark Red Jonathan**, **Yellow Transparent**, **Anoka** and **Yellow Delicious**. Can also furnish **3-N-1 Pear**, **3-N-1 Cherry** and **5-N-1 Peach**.

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SHENANDOAH, IOWA

of those over there by that club-footed Box Elder?"

"Take one of the green ones, Chas. There's a bluish one there might be a big seller, if I get it on the market. By the way, Chas., I seen a new thing over at Mrs. Brewsters last week. Shes got a dark green Yew. Best I ever seen. Im going down right now and take some cuttings. I always wanted to have a Taxus Riverbendi to introduce to the trade."

"That's a good idea, Emil. On the last count there was only 75 kinds of dark green Yew on the market, so you got the field practically to yourself."

ABIES VEITCHI.

Abies veitchi, the Veitch fir, is not so large a tree as the Nordmann fir, described in the November 1 issue. It is slow-growing, but particularly handsome when young, with its broad pyramidal habit of growth.

The Veitch fir is native of central Japan, where it is said to attain a height of seventy-five feet. The foliage is particularly attractive; the needles are crowded on the twigs, glossy green above, notched at the tip and pointing forward. The needles are on the underside marked with two broad silver-white bands, which are prominent, giving a characteristic and striking white under-surface. The branches diverge upward at their tips, displaying the white undersurface of the leaves more prominently than would be otherwise true.

Like most of the other firs, the Veitch fir delights in a cool soil and climate. Because of smoke and soot, it does not thrive well in congested city districts. It is one of the most hardy of the firs, but thrives best in the midwest in partially protected situations. It lends itself to planting on small home grounds because of its slow growth. Its interesting, compact habit of growth when young can be maintained over a considerable period by removing the terminal buds in early spring. Propagation is by seeds. In cooler climates it may be used for mass planting as screens as well as for specimens. L. C. C.

MARTIN J. OLSON, for sixteen years in the production department of the Cashman Nurseries, Owatonna, Minn., is now with the Jewell Nurseries, Inc., Lake City, Minn.

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This Business of Ours

Reflections on the Progress and Problems of Nurserymen

By Ernest Hemming

KIBITZERS AND SELLING.

Of course, it is only true in a small town, but a member of our firm can hardly walk uptown without receiving a small order. In fact, one said that if you stood around on the sidewalk on Saturday morning you could probably do more business than you would in the office.

On the other hand, every business has opportunities of selling that are possibly overlooked. Whenever a planting job is done in a conspicuous location, such as in parks, about public buildings, etc., there are numerous kibitzers. Quite often a number of these kibitzers are potential customers. It is likely that it would be worth while that, in addition to the supervisor or foreman on the job, a salesman just hang around and talk to the interested spectators that saunter up to ask foolish and sensible questions. If a genial salesman is around to answer, "How do you prune this?", or, "Have you any of that kind of plant?", he will soon find that there will be invitations to "come around and fix my garden" or "take care of my dooryard planting" or "put me in a rose garden." Of course, the rush of the planting season and the desire to get on to the next job makes this difficult, and while the foreman may be civil and polite it is difficult to run the job through efficiently and at the same time follow up interesting leads. A salesman could easily do this.

I wonder if we realize how much chance and opportunism has to do with many of the orders we get. For instance, with the vague idea in the back of his mind that he will someday plant an outdoor living room in his back yard, a customer who sees a gang of men doing a workmanlike job uptown may stop and ask a few questions. If someone is there with the time to give him, that man might decide to go ahead with the work. If not, the job may never be done, or it might be done by the next nurseryman who comes along at the right moment.

There is another point about kibitzers and our business. To us our business is work, even though beautiful and unusual plants give us pleasure and we enjoy our work, but to many of our customers our profession is their hobby. And, poor man or rich man, statesman or professional man, they all like to talk about their hobby, and people indulge in hobbies only as the spirit moves them, which is too often only when it is called to mind.

Pay attention to your kibitzers and you will probably get more business than you would from a newspaper advertisement. E. S. H.

THE EVOLUTION OF THE STOCK BOOK.

The layman visiting a nursery is usually surprised when he learns that the nurseryman makes an annual grade count of all the plants on the nursery for an inventory.

In the very old days, the stock book was written up in the office with the items alphabetically arranged; then it was taken out in the nursery, and counts and grades were entered. It was a cumbersome, inflexible method and, of course, gave way to the loose-leaf book written on the typewriter. This was good, but had its limitations. The main fault was that the stock book was a one-man affair and still not flexible enough for constant reference and correction. Modern methods suggested for the job the index card, which has proved quite satisfactory. In fact, it proved too adaptable to the job and soon began to be overloaded.

On an old index card, 4x6 inches, printed for the purpose, I notice there was a place for the proper name, common name, date, block, height, caliper, condition, price and remarks. Now all the data taken in the field are quantity, grade and block, or location. It is, however, for each individual nurseryman to decide just how complete data of what is in the nursery rows are wanted in the office.

The one great consideration to remember is that stock taking is done in the slack season, and the more thorough the data at your elbow when you are talking on the long-distance telephone, the better.

Stock taking is a grand chance for the salesman, office man and even the boss to get acquainted with "what have we?" The chief value of stock taking to the nurseryman is not the data put on the cards so much as the information about his own business, that cannot be recorded, but which he acquires by taking stock.

E. H.

THE title of the Keller Flower Gardens, Kansas City, Kan., has been changed to Keller Landscape Nursery, which is now at 1011 North Twenty-ninth street. The new location provides a 3-acre sales lot, with office and home on the grounds.

WHILE YOU ARE THINKING ABOUT

mailing a circular or special list to move surplus stock in time, an advertisement in the

AMERICAN NURSERYMAN

would carry your offer to trade buyers quickly and at less cost—and you may be sure it will be seen and read.

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THE KALLAY BROTHERS CO.
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CEDAR BLIGHT.

[Concluded from page 14.]

beds that were watered by overhead irrigation. This might have been due to the splashing of the water as it hit the ground, the splashing carrying the disease spores from one tree to another.

Attempts to eradicate the disease from seedling beds by roguing out the diseased seedlings were not successful. Only in lightly infected beds was there any improvement, while in beds heavily infected the disease grew worse. Apparently the disease spores were scattered by the roguing process.

The first recognizable symptom of cedar blight is the wilting of the young new growth. The wilted part turns brown and later the fruiting bodies show up as tiny dark spots. On older nursery trees, the disease usually starts near the ground and spreads out in all directions, causing the death of one side of the tree and making it unmerchantable.

No dependable control for cedar blight has yet been discovered. Various fungicides were tried out in experiments conducted at Manhattan, Kan., during the 1941 growing season. Among those tested were Bordeaux mixture varying in strength from 2-2-50 to 5-5-50, lime-sulphur, and wettable sulphur. Two series of red cedar seedling beds were employed in the tests, one series over a 5-day period, the other for ten days. In the 5-day test the best control was obtained from Bordeaux mixture 5-5-50. Wettable sulphur gave the best control in the 10-day test.

Spraying should begin early in the season, before any symptoms of the disease are in evidence. Spraying is a preventive, not a cure. In the latitude of Kansas, spraying should begin not later than May 15. The spray must be applied thoroughly, close to the plants and with plenty of pressure. Mulching the seedling beds with a thin layer of peat may cut down splashing from overhead irrigation or rain. The beds should be elevated slightly for better drainage. In order to be sure of the results from spraying, controls or checks of unsprayed areas should be left. Experiments indicate that the disease probably starts in the seedbeds and is carried on the seedlings to the transplant beds.

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EVERGREENS, SHRUB LINERS.
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Diseases of Trees

Gleanings from the Latest Reports of Scientific Research

By Leo R. Tebon

VEIN CLEARING, ANOTHER DISEASE OF CHERRIES.

To the already long list of proved and suspected virus infections to which members of the genus *Prunus* are subject (see various earlier issues of the *American Nurseryman*) is now to be added another, for which the name vein clearing, descriptive of one of its pronounced effects, has been suggested. This new disease was discovered in Oregon, having been first observed in the summer of 1936, and has been widely observed in that state and, also, in one location in the state of Washington.

Vein clearing is primarily a disease of cherries, but similar symptoms have been seen on Italian prune. Among orchard cherries it attacks only the black varieties of the sweet cherry, *Prunus avium*, affecting the Bing, Black Republican and Lambert varieties. Among the ornamental flowering cherries it attacks six varieties of *Prunus serrulata*. It was discovered on the Kwanzan variety. Varieties of *Prunus yedoensis*, *P. Sieboldii* and *P. subhirtella* do not, however, show symptoms of it.

Infection by the vein clearing virus, which is to be known technically as *Prunus virus 8* or as *Marmor nervi-clarens*, is expressed in rather definite foliage, branch and fruit symptoms. Orchard cherries in which the disease is not far advanced make nearly normal growth, but trees in which infection has been present some years show considerable dwarfing. Recently infected trees usually have symptoms confined to a few spurs or to one branch.

Symptoms first become apparent in the leaves. The first to appear is the clearing of veins, for which the disease is named. This occurs either throughout the leaf or in local areas, and its effect is such that, if a leaf is held to the light, the veins appear transparent. Accompanying this is a malformation of the leaves, in which the leaf margins are made irregular with deep indentations. Large or small portions of the leaf blades may also be wanting, either at the edges

or within the blades, and the entire result is to make the leaves appear narrower than normal. On the underside of the main vein small blister-like outgrowths are sometimes found. By reflected light a characteristic silverying of the upper leaf surface can be observed, and this silverying is most intense in the areas where cleared veins are most numerous.

By midsummer the leaves tend to droop more than is normal, causing the infected tree to appear somewhat wilted. The wilted appearance is, however, exaggerated by the silvery grayness of the leaves and also by the tendency of the leaves of such varieties as the Bing to fold along the midvein.

Trees that have been infected for some time show a tendency toward dwarfness and the production of rosetted growth. The rosetting results from a shortening of internode growth and from an increase in the number of buds, spurs and short branches produced at the nodes. The tendency to produce rosetted growth is not evenly distributed over a tree. On branches where it occurs, it will be found most pronounced at the end of the year-old wood.

In early stages of infection orchard trees need not show any noticeable fruit malformation, but as the disease becomes more advanced the fruit produced is misshapen and of small size. The individual fruits are then pointed, flattened on the suture side and sometimes have a swollen ridge along the suture. The fruit of the Black Republican variety shows little, if any, of this malformation. Trees of the Lambert variety, when infected, tend to produce an overabundance of blossoms, but seldom yield a normal

Selection of Broad-leaved Evergreens

By L. C. CHADWICK

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Evergreens—Shrubs
Lining-out Stock
Send for Complete Trade List

W. N. SCARFF'S SONS New Carlisle, O.

crop; if infection is of long standing they may not yield at all.

In the experimental work with this disease, carried on by S. M. Zeller and A. W. Evans, of the Oregon agricultural experiment station, it has been determined that the virus can be transmitted and perpetuated through grafting. There are, however, definite indications that a natural method of infection and spread exists in orchards and nurseries. Although insects are commonly responsible for the spread of virus diseases, no insect has yet been found that is capable of spreading the vein clearing disease.

L. R. T.

JOINS MAXWELL-BOWDEN.

T. Raymond Rice is now a part of the firm of Maxwell-Bowden, Inc., successor to Rice Bros. Co. The firm, located at Geneva, N. Y., operates a nursery of over 300 acres and a modern storage capacity of 80,000 square feet.

Ray Rice, son of J. P. Rice, former president of Rice Bros. Co., is back home after an absence of several years. During that time he has acquired a wide experience with leading nursery firms. Horton Bowden, Henry Maxwell and Ray Rice make a combination well able to conduct an efficient business.

BOXWOOD GARDENS FIRE.

The beautiful home of Mr. and Mrs. R. P. Royer, High Point, N. C., was destroyed by fire December 7. Undaunted, Mrs. Royer is continuing the business of the Boxwood Gardens as usual, from an office in a trailer in the back yard. Construction of a garage with servants' quarters has been started and it will serve as the Royers' home until the residence can be rebuilt. Some of the contents of the house, though damaged, were saved, but a great many of the business records were lost.

The cause of the fire is unknown; the blaze was discovered by a passerby, who informed the Royers while they were at breakfast. The nearest water line was a mile away, so that it would have been impossible for firemen to save the property. About the large, finely landscaped house were planted a number of excellent specimens of boxwood; the Royers' stock includes 40,000 box, Old English, dwarf and tree.

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WAR PROBLEM ON COAST.

The recently formed Southern Nurserymen's Association of California faced a big problem at its first regular meeting, December 16, at the Barker hotel, Los Angeles, Cal. The problem involved the association's policy with respect to the hundreds of nurseries in Los Angeles and adjacent counties conducted by Japanese and Americans of Japanese parentage.

Henry Fukihara, of the Las Palmas Nursery, attended the dinner and presented a message from the Nisei, pledging their support of the constructive policies of the association and also their personal friendship, as well as their total loyalty to the United States.

A discussion of the Japanese matter brought out that practically all the nurseries had been closed pending the establishment of the citizenship of the owner or his freedom from suspicion of un-American activities or affiliations.

It was said by some members of the association that immediately upon reopening of these nurseries sales were begun, prices were cut and a general condition of unfair competition established.

As a result of heated discussion, a smaller committee met the next evening to formulate a petition outlining the conditions for presentation to the proper authorities.

FUNGUS KILLS MADRONA AND DOGWOOD TREES.

During the past year or two the madrona and dogwood trees in and about Seattle have been stricken with a blight. At first this condition was blamed on the dry weather of the past several years. But Dr. Hanley, director of the University of Washington arboretum, and Dr. D. E. Stuntz, pathologist of the university's botany department, after examining scores of trees, discovered the growth.

They have discovered two types of fungi killing the madronas. One works in the trunk beginning at ground level and extending upward, and the other works in the branches, killing the tips. The fungus that works on the trunk of the madrona, encircling it and destroying all tissues upon which the tree relies for water and food from the soil, is deadlier than the tip disease. When a tree is stricken, the leaves will turn brown

and die. "A tree that is severely affected by the fungus which attacks the trunk cannot be saved and one might just as well remove it at once," Dr. Hanley said. "If, however, the disease is just getting started, there is a good possibility that a skillful tree surgeon might dig out the diseased tissue, cauterize the wound and treat it so that a new, healthy tissue can grow over the scar again."

The fungus which attacks the dogwood starts at the ground line and works around the stem, much the same as the madrona fungus. When attacked by the disease, the bark of the dogwood falls away, exposing the wood all the way around the trunk.

In early stages the disease may be recognized by the appearance of slight cracks in the bark, out of which is produced a shining blackish exudate.

It was found that the disease affected particularly those trees along Lake Washington and Puget sound, where the air is more humid and the spores have more favorable conditions in which to germinate.



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Price list sent on request.

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P.O. Box 42, Orono, Ore.

HOWARD'S FLOWERLAND.

Paul J. Howard's new California Flowerland, on National boulevard and Barrington, Los Angeles, Cal., opened the past summer represents the fulfillment of an ambition by Paul Howard to have adequate space for growing all his nursery stock on ground directly connected with his showrooms.

A curving driveway leads up to the main entrance, and as a feature



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1 and 2-year.

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of the new service, attendants are provided to take charge of cars and park them. The main salesroom is octagonal in shape, 100 feet in diameter. Large glass windows frame vistas of color and beauty, extending across the flower beds and pools to hills in the distance. An octagonal ceiling of sky blue centers the room, upon which in silver letters is inscribed "Plants and Seeds All over the World." A blue globe is suspended, upon which floral decorations instead of the usual geographical markings are used. Floral murals decorate the walls above the doors and windows.

To the east is a 5-acre botanical garden of educational and experimental nature. Directly behind the salesroom is a pool containing water plants, with scores of variegated potted plants bordering it. Farther in the rear are acres of potted plants and shrubs, and behind these are flower fields, the source of much of the nursery's stock. There are forty-five acres in all.

Richard D. Westcott is general manager of the Paul J. Howard establishment. Thomas E. Stimson is in charge of the seed department. M. V. Chipman is superintendent of the garden planning and planting department. Russell Westcott is in charge of the department of botany and horticulture.

SOUTHWESTERN NEWS.

Mr. and Mrs. Harold Crawford, Ottawa, Kan., are rejoicing in the birth of a son, Harold Franklin, born December 13. Mr. Crawford is connected with the Willis Nursery Co.

Richard Holmes, of Jackson & Perkins Co., Newark, N. Y., visited several nursery centers in the south during the second week of December, including Tyler, Tex.; Chase, Ala., and McMinnville, Tenn.

The Kansas industrial development commission, working with the conservation department of the Kansas Federation of Women's Clubs, is offering \$330 in cash prizes to be divided among winners in the seven Kansas districts. Two winning clubs will be named in each district and given cash awards, and a grand prize of \$50 will be awarded the best of the district winners. The competition will be for the best planting projects in a community or along its approaches.

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(Oregon-Washington Hollygrape)

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large panicles of yellow flowers followed
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anywhere in the United States.

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1-yr. seedlings, 2 to 4 ins., row run.... \$10.00
2-yr. seedlings, 6 to 12 ins., row run.... 20.00
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PRICES QUOTED ON REQUEST.**

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A Complete Line of OREGON-GROWN NURSERY STOCK

With the memory of last year's shortages still fresh in mind, and the probability that stock will be more in demand next year, protect your business by ordering now for delivery next season.

Maples—Birch—Hawthorn—Chinese Elm—Bechtel's Crab—Flowering Cherry—Weeping Cherry—Weeping European Aspen—Laburnum Vossii—Laburnum Adami.

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ORENCO NURSERY CO.

Orengo, Oregon
WHOLESALE GROWERS

Fruit, Shade, Flowering Ornamental
Trees, Fruit-tree Seedlings, Roses, Etc.
Very complete line of quality stock
Catalogue sent on request.

Make Future Customers

For the past two years my work has been in connection with a local vocational school training young men to become gardeners, nurserymen or greenhouse men. This has been a full-time 2-year course open to high school graduates. The enrollment has always been small, and now the course is being discontinued because of an almost utter lack of young people wanting to enter this trade.

As I survey the entire situation along with my experiences in seeking more students, I wonder if the lack of persons wanting to learn the trade is not directly connected with the lack of ornamental plant customers in general. Surely this trade is as venerable as an electrician's or a carpenter's. There just doesn't seem to be that tingle of vitality to the nursery business or the gardening business that there is in the mechanical businesses. This is especially true right now, when mechanization apparently is almost the very breath of existence.

Now, I am young enough and enthusiastic enough to know that I am going to be connected with some aspect of the horticultural world for at least two or three decades, and I know that, whether with horticultural students or horticultural customers, I am directly concerned, because it is through them or from them my livelihood as well as that of many others is going to have to come. Some years' work in the nursery business has given me a nurseryman's viewpoint, and teaching has made me aware of what teachers are up against. I feel that we are not making so insistent or so intelligent a demand for our share of the consumer's dollar as we should. Certainly nursery products and gardens are just as valuable to education and culture as are the majority of mechanical materials. In many school districts requisitions for mechanical equipment meet with prompt action—while requisitions for trees, shrubs and gardens often meet with considerable hesitancy. This isn't any fault of school boards or school business agents or teachers. The fact is that these people just aren't made continually conscious of the beauties and

benefits of gardens and plant materials in the same manner that they are made conscious of the values of other products.

The book of cover illustrations you plan to publish is a long and definite step in the right direction. Nurserymen ought to see that there is a copy in every public library—every botany teacher ought to have one—every school board ought to be approached to have these books as part of the equipment for plant study classes. Then every nurseryman ought to make it his business to see that there are at least some living specimens of the trees represented in the book planted about the school grounds. The nurseryman ought to see that the botany classes visit his grounds several times a year for appreciative

examination of plant materials. When the economics classes are studying industries, they, too, should be invited to visit the nursery.

This isn't all, though; this is just scratching the surface. Many manufacturing industries supply motion pictures, often with synchronized sound, free of charge to groups as entertainment and incidentally as publicity. The seedsmen have done something with this, but I know of no nurserymen's group using this excellent means of securing publicity. I believe in lots of publicity, with special attention to the younger generations. There is so much gross and undesirable publicity available for youngsters that nurserymen and school people ought to work together to present no end of garden and plant information to children as a sound tonic much needed.

The mature customer has been given consideration through garden clubs and other means, but these

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Azaleas, Flame, 12 to 18-in. clumps	\$4.00	\$30.00
Lining-out	2.00	18.00
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HOGANSVILLE, GEORGIA

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Evergreen Liners — Specimen Evergreens, B&B — Hardy Fruit Trees — Hardy Apple Seedlings — Ornamental Shrubs — Lining-out Shrubs, Trees and Vines. Write for price list.

J. V. BAILEY NURSERIES
Daytons Bluff Sta. St. Paul, Minn.

younger customers-to-be have really been neglected. If we don't consider them, the nurserymen's sales yards are going to be cluttered up with too many persons in Packards buying geraniums and not nearly enough folks in just as comfortable Fords buying magnolias. C. Wieting.

ADVISES STUDENTS.

Willard A. Van Heiningen, Cornell graduate of 1930 and member of South Wilton Nurseries, Wilton, Conn., spoke to the students of the department of floriculture and ornamental horticulture at Cornell University, December 11, on his experiences in the nursery and landscape business. The meeting was under the auspices of Pi Alpha Xi fraternity.

The meeting was attended by twenty students who are planning to enter this branch of ornamental horticulture. Mr. Van Heiningen's remarks were especially pertinent for those about to enter the commercial field and brought forth lively discussion by the group.

Mr. Van Heiningen strongly urged a period of apprenticeship following graduation from college, in an arboretum or botanic garden or private estate work. The speaker stated that such a position would give the student invaluable experience with plants, broadening his knowledge and sharpening his powers of observation. Thorough familiarity with plant material and its performance in a given locality is basic to successful landscape planting and can only be obtained through actually living with plant material, handling it in planting, pruning, spraying, fertilizing and winter protection operations.

Having a good knowledge of plants is important, but, said Mr. Van Heiningen, success in business depends upon ability to meet customers and recognize their problems. Determination to build up a clientele which is satisfied with your plants and your work and respects your business methods is fundamental to success. The sale of labor is especially important and should be reduced as much as possible in local enterprises. Over-supply of expensive equipment is fatal for the smaller nurseryman. Specialized work, such as tree moving, spraying and so forth, is done more economically in time and labor by those who have special equipment. Strict attention to trends in the use

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	1/4 lb.	1 lb.
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1/4 oz., 50c; oz., \$1.50.		
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Azalea poukhanensis, from selected garden specimens	.35	1.25
1/4 oz., \$2.00; oz., \$5.00.		
Azalea rosea	1/4 oz., \$1.50; oz., \$4.50.	
Azalea Schlippenbachii	1/4 oz., 90c; oz., \$3.50.	
Crataegus coccinea	.45	1.25
Crataegus Crus-galli	.45	1.60
Crataegus mollis, clean	.45	1.50
Crataegus prunifolia	.45	1.50
Crataegus punctata	.45	1.50
Cytisus scoparius	.70	2.50
Cytisus scoparius sulphureus, Moonlight Broom	.85	3.00
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Juniperus virginiana, Northern, clean	.60	3.00
Koeleria paniculata	.60	2.00
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Larix europaea	1.25	4.50
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Picea pungens glauca	1.20	4.50
Pinus densiflora	.50	1.10
Pinus ponderosa, Col.	.50	1.10
Pinus resinosa	.60	2.00
Pinus rigida	.45	1.25
Pinus Strobus	.85	3.00
Pinus thunbergii	.35	1.10
Prunus americana	.35	1.10
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Rhododendron carolinianum, 1/4 oz., 25c; oz., \$1.00.		
Rhododendron catawbiense, 1/4 oz., 35c; oz., \$1.00.		
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Rosa lucida	.30	.95
Rosa rugosa, clean	.50	2.50
Rosa rugosa alba, clean	.75	3.50
Rosa setigera, dry hips	.35	1.25
Syringa vulgaris, clean	1.25	4.50
Syringa French Hybrids	1.25	4.50
Thuja occidentalis	.60	2.00
Thuja orientalis	.75	2.50
Thuja orientalis conspicua	1.00	3.50
Taxus cuspidata capitata	1.50	6.00
Taxus media Hicksii	1.50	6.00
Tsuga canadensis	.35	1.25
Viburnum cassinoides	.35	1.25
Viburnum dentatum	.35	1.25
Viburnum dilatatum, clean	.35	1.25
Viburnum Lentago	.35	1.25
Viburnum Opulus, clean	.95	3.00

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Landscape representative; an opening exists in a well established nursery firm in a good metropolitan area in the mid-west for a man well versed in landscape designing, selling and execution. Experience in grounds sales valuable but not absolutely necessary. If you have reached the end of opportunity in your present location here is a chance to step up the ladder.

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Nursery and business; medium-sized nursery located in best dairy farming area of northeastern Iowa; good home, buildings and growing stock; very best references in every way.

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"Worth many times the price of the magazine" was the verdict of readers on these articles.

25c per copy

THE AMERICAN NURSERYMAN
508 S. Dearborn St., Chicago, Ill.

of plants is important. Unsalable items are hard to discard, but this must be done to reduce maintenance costs.

Cash retail sale of plants should be encouraged. Location of the nursery on a well traveled road is of prime importance for this phase of the nursery business. Personal interest in and direct supervision of such an enterprise are absolutely essential.

Remuneration in the nursery landscape business may not lead to large financial returns, but for those who are interested in plants and have business ability it offers the opportunity to work at your own enterprise and enjoy the satisfaction of work well done.

**LONICERA KOROLKOWII
FLORIBUNDA.**

The blueleaf honeysuckle, *Lonicera Korolkowii*, has been in the trade for a good many years, although it has not been used extensively. Where it is given plenty of room, it will form a large shrub to a height of about twelve feet. With judicious pruning, however, it can be kept to a somewhat smaller size. The general habit of growth of this plant is upright, spreading and somewhat drooping branches from a relatively dense, compact mass. Branches are well covered with bluish-green leaves, ranging in size from about one-half to one inch in length. The bluish color is especially noticeable when they first appear in the spring. The leaves are quite distinctly hairy and are rounded at the tip—two points which can be used to distinguish this honeysuckle from some of the others.

The rosy-pink flowers are produced abundantly in May and make a pleasing sight along with the bluish-green foliage. The flowers are followed in midsummer by red fruits, which either fall or are taken rather quickly by birds.

The culture of this plant is not exacting, as it does well in the average garden soil. As mentioned previously, it should be given plenty of room to spread, to be at its best. The soil reaction is not important, but the plant should be given a sunny exposure. It will stand partial shade, but the general growth of the plant is not so satisfactory as where full sun is provided.

The variety *floribunda*, the broad

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each additional line, 20 cents,
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your stock easily and cheaply.

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Grades, 4 to 6, 8 to 12, 12 to 18 and 18 to 24 ins.
Prices are very reasonable.
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SHADE TREES, REAL BARGAIN.
300,000 Chinese Elm trees, sizes from liners to specimen plants. Write or wire your needs.
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25,000 Trees, Shrubs, Raspberries. 10,000 lbs. seeds: Allantus, 25c per lb.; Sycamore Platanus, 25c per lb.; Kentucky Coffee Bean, 35c per lb.; Regel Privet, also Amoor River North, 50c per lb.; Schroeder Nursery Co., Granite City, Ill.

Horse-radish, cuttings and 1-year crowns.
Large quantity Washington Asparagus plants: Rhubarb, Flare and Victoria, 1-year and 2-year roots. Rhubarb seed.
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Peach, Apple, Peach, Pear,

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Ask for price list.

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CUTTINGS AND GRAFTS.

Acer, Azalea, Cypress, Cornus, Gordonia, Ilex, Juniperus, Leucothoe, Magnolia, Malus, Pieris, Taxus, Thuja; Virburnum Carlesii, Burkwoodii; Wisteria, in many varieties and sizes. Ask for list just out.
WESTBURY ROSE CO., INC., WESTBURY, N. Y.

A few carloads for spring sale, per 100: Mountain Ash, 5 to 6 ft., \$35.00; Norway and Lombardy Poplar, 1½ to 2-in., \$35.00; American Elm, 1½ to 2-in., \$85.00; Austrian Pine, 2½ to 3 ft., B&B, \$150.00; Scotch Pine, 2½ to 3 ft., B&B, \$120.00; 3 to 4 ft., \$150.00. Pequot Nursery, Pequot Lakes, Minn.

COTONEASTER HUMIFUSA.

T \$10.00 per 100 baled
TT, branched 15.00 per 100 baled
TTT, branched 20.00 per 100 baled
THEO. ALBERT NURSERY,
R 3, Box 164, Olympia, Wash.

Per 1000: Blackberries, Dallas, McDonald, \$8.00; Lawton, Kan. Cluster, \$10.00; En. Wonder, \$12.00. Youngberries, \$10.00. Austin Dewberries, \$7.00. Amoor River South seed, 20c per lb., 50 lbs. or more, 15c per lb. Might trade.
Friou Floral & Nursery, Cleburne, Tex.

PECANS.

Grafted, heavy-bearing pappernell Pecan trees, 18 ins. up to 8 ft. Make valuable stately old producers in yard or grove. Fast, accurate shipping service. Wholesale catalogue only.

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Per 100
6 to 8 ins., 4-yr., trans., heavy \$12.00
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10 to 12 ins., 6-yr., trans., heavy 25.00
WAYNESBORO NURSERIES,
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Grown for shade and ornamental purposes in assorted varieties. 7 to 8 ft., 1½ to 2-in. caliper, \$10.00 per 10, \$90.00 per 100; 2 to 2½-in. caliper, \$16.50 per 10, \$150.00 per 100. 4 to 5-in. caliper, B&B, trees quoted on request.
WAYNESBORO NURSERIES,
Waynesboro, Va.

4,500 Nurserymen

will see your Want List or your prices on Long Items if you list them in the

CLASSIFIED ADS

Get action quickly,
easily and cheaply.

blueleaf honeysuckle, differs only slightly from the species, but is considered by many authorities to be somewhat superior. Its main distinction is that the leaves are somewhat smaller and rounder, giving a finer-textured appearance to the entire plant.

The propagation of *Lonicera Korolkowii* can be accomplished readily by seeds or by softwood cuttings handled in the usual way in hot frames during the summer.

The best use of this plant is probably as a border shrub where it can be provided with background of evergreens or larger deciduous shrubs with dark green foliage. It combines well with *kolkwitzia*. Since the plant is well adapted to the general run of soil conditions, it likewise finds a use in roadside plantings and other extensive bank areas. It is without doubt one of the best of the honeysuckles available. L. C. C.

NEW PLANT PATENT.

The following plant patents were issued in December, according to Rummel, Rummel & Davis, Chicago patent lawyers:

No. 493. Ivy plant. Myron T. Barcafer, Springfield, O. A new and distinct variety of ivy characterized by leaves each having a plurality of lobes, the edges of the lobes presenting a crimped appearance on the upper side of the leaf and having a rolled or beaded effect on the reverse side of the leaf, the leaves after reaching maturity each presenting a wave-like appearance.

No. 494. Walnut tree. Wilhelm Schafer and Marie Schafer, Yakima, Wash., assignors to H. Lynn Tuttle, Clarkston, Wash. A new and distinct variety of Persian walnut, characterized particularly by exceptional hardiness and productivity, adaptation to districts of short growing season, the tightness with which the two halves of the nut adhere together and the high percentage of meat.

No. 495. Rose plant. Walter I. Johnston, Portadown, Ireland, assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of hybrid tea rose plant, characterized as to novelty by the new unfading yellow color of its flowers, symmetry of form, continuity of blooming and attractive green foliage.

ASK EXPRESS RATE RAISE.

In filing tariffs with the Interstate Commerce Commission providing for an emergency increase of 10 cents on all l.c.l. express shipments, effective January 20, L. O. Head, president of the Railway Express Agency, explained that the added charge was essential to enable the company to pay wage increases recently put into effect upon recommendation of the

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mediation board appointed by President Roosevelt, together with other recent increases in labor costs which will cause an annual increase of more than \$16,000,000, including pay roll taxes of six per cent. It was pointed out that the additional revenue is necessary to meet these expenses and other rising costs of materials, supplies and general price increases.

The Interstate Commerce Commission has assigned for hearing before Commissioner Aitchison at Chicago, January 9, 1942, at the Morrison hotel, the question of whether or not the commission should suspend the effective date of these tariffs.

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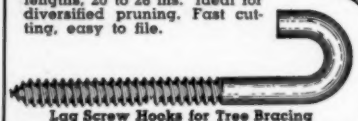
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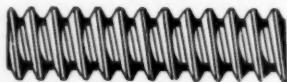
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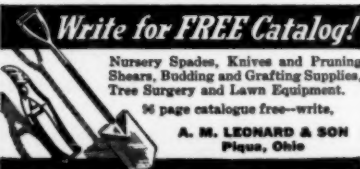
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GARDEN CONFERENCE.

[Concluded from page 6.]

climatic sections of the country, and state extension agencies are asked to prepare similar material so that the most dependable varieties can be planted.

The committee on the conservation and preservation of fruits and vegetables, under the leadership of Dr. Louise Stanley, chief of the bureau of home economics, was chiefly concerned with the methods of processing and storing.

The committee on home, school and community gardens, of which W. Atlee Burpee, Jr., was chairman, recommended all three types of gardens to increase the production and consumption of garden fruits and vegetables for building a stronger and healthier nation, using the slogan "Vegetables for Vitality for Victory." An emblem was suggested, designed to represent two carrots forming a V, holding a tomato on which appear the words, "I have a garden." To further the program it was suggested that state conferences be held early in January at the colleges of agriculture.

Especially important to nurserymen was the committee on the conservation of lawns, flowers and shrubs. Several excerpts from this committee's report, appearing on the preceding page, indicate the recognized value of flowers, shrubs and trees in wartime.

The carrying out of this program was considered by the remaining committee, on educational materials and techniques, under the chairmanship of E. L. D. Seymour, garden editor of American Home. All the avenues of publicity whereby gardening may be brought to the attention of the public were mentioned, with a view to reaching all the various agencies which might promote the program.

Generally it was believed that title of the program should be that of "National Victory Garden Program." Further, it was generally recommended that a continuing advisory committee on coördination to work with the interdepartmental committee of the government be set up. Under its guidance the victory garden program would be carried to the states and to the counties and communities of the nation.

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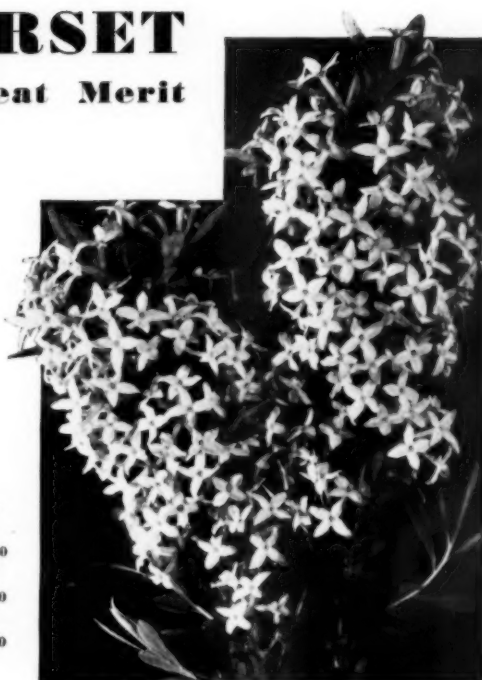
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Plant Patent No. 315

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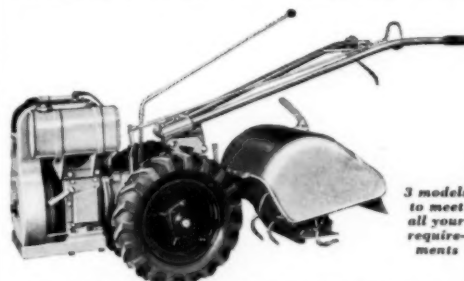
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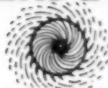
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